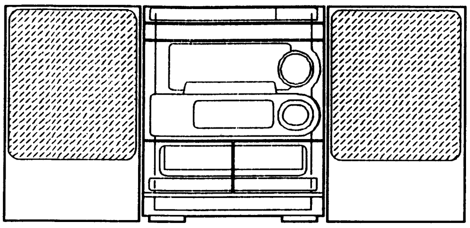
aiwa

aiwa SERVICE

NSX-S50
NSX-S52



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM/YPR4NM
- BASIC CD MECHANISM : 4ZG-1 Z1DNM
- TYPE : EZ,K,V

SERVICE MANUAL

SYSTEM	CD – CASSEIVER	SPEAKER
NSX–S50 (TYPE : EZ,K,V)	CX – NS50	SX – FNS50
NSX–S52 (TYPE : EZ)	CX – NS52	SX – ANS70

- If requiring information about the CD mechanism, see Service Manual of 4ZG-1, S/M Code No. 09-974-187-50T.

S/M Code No. 09–976–199–6FE

SPECIFICATIONS

<FM Tuner section>

Tuning range	EZ,K: 87.5 MHz to 108 MHz V: FM1 (OIRT) 65 MHz to 74 MHz (10 kHz step) FM2 (CCIR) 87.5 MHz to108 MHz (50 kHz step)
Usable sensitivity (IHF)	EZ,K: 16.8 dBf V: FM 1 : 15.3 dBf FM 2 : 12.8 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

<LW Tuner section>

Tuning range	144 kHz ~ 290 kHz
Usable sensitivity	1400 µV/m
Antenna	Loop antenna

<Amplifier section>

Power output	Rated : 60 W + 60 W (6 ohms, T.H.D. 1 %, 1 kHz/DIN 45500) Reference : 75 W + 75 W (6 ohms, T.H.D. 10 %, 1 kHz/DIN 45324) EZ : DIN MUSIC POWER:180 W + 180 W *without connecting to the SURROUND SPEAKERS
Total harmonic distortion	EZ,K: 0.05 % (50 W, 1 kHz, 6 ohms, DIN AUDIO) V: 0.05 % (40 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 150 mV (adjustable) MD : 150 mV (adjustable) MIC 1, MIC 2 : 1.0 mV (10 kohms)
Outputs	LINE OUT : 200 m V SUPER WOOFER : 1.9 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS : accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO2 tape : 50 Hz - 16000 Hz Normal tape : 50 Hz -15000 Hz
Recording system	AC bias
Heads	Deck 1 : Playback head x 1 Deck 2 : Recording/playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05% (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–FNS50>(S50 EZ, K, V)

Cabinet type	3 way, bass reflex with surround speaker (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter : 20 mm ceramic type Surround speaker : 80 mm
Impedance	Front speaker : 6 ohms Surround speaker : 16 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	250 x 304 x 288 mm
Weight	3.6 kg

<Speaker system SX–ANS70>(S52EZ)

Cabinet type	4 way, bass reflex with surround speaker (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 50 mm cone type Super tweeter : 20 mm ceramic type Cardioid speaker : 80 mm cone type Surround speaker : 80 mm
Impedance	Front speaker : 6 ohms Surround speaker : 16 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	250 x 310 x 280mm
Weight	4.5 kg

<General>

Power requirements	230 V AC, 50Hz
Power consumption	110 W
Dimensions of main unit (W x H x D)	EZ,K: 260 x 309 x 346 mm V: 260 x 309 x 346.4 mm
Weight of main unit	6.5 kg

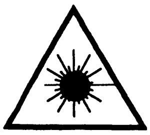
- Design and specifications are subject to change without notice.
- The word "BBE"and the "BBE symbol" are trademarks of BBE Sound, Inc.
  Under license from BBE Sound,Inc.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

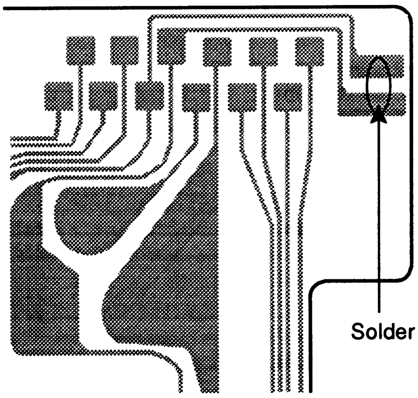
Precaution to replace Optical block

(KSS – 213B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in figure below.

PICK-UP Assy P.C.B



ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-NF4-642-010		IC,LC866548V-5E54
	87-A20-083-010		IC,BA3835S
	87-A20-450-040		C-IC,BH3864F
	87-A20-056-010		IC,BA3880S
	87-A20-456-040		C-IC,BH3810FS
	87-017-888-080		C-IC,NJM4558MD
	86-NFZ-655-010		IC,LC72131D(Z)
	87-A20-438-010		IC,LA1837
	87-020-454-010		IC,DN6851
	87-A20-355-010		IC,CXA1553P
	87-A20-455-010		IC,HA12211
	87-A20-440-040		IC,BU1920FS<EZ>
	87-070-083-010		IC,GPIU281X
	87-A20-613-040		C-IC,BU9262AFS
TRANSISTOR			
	87-026-263-080		C-TR,RN1410
	89-213-702-010		TR,2SB1370E
	87-A30-076-080		C-TR,2SC3052F
	87-A30-075-080		C-TR,2SA1235F
	87-026-610-080		TR,KTC3198GR
	87-A30-073-080		C-TR,RT1N 141C
	87-A30-085-070		C-TR,CSA1362GR
	87-A30-083-080		TR,CSD1489B
	87-A30-084-080		TR,CSB1058B
	87-A30-071-080		C-TR,RT1N 144C
	87-026-609-080		TR,KTA1266GR
	87-A30-086-070		C-TR,CSD1306E
	87-A30-106-070		C-TR,CMBT5551
	87-A30-111-080		TR,C2N5401
	87-A30-097-010		TR,FN1016
	87-A30-098-010		TR,FP1016
	87-A30-089-010		FET,2SK2723
	87-A30-072-080		C-TR,RT1P 144C
	87-A30-087-080		C-FET,2SK2158
	87-A30-074-080		C-TR,RT1P 141C
	89-327-143-080		C-TR,2SC2714(O)
	89-505-434-540		C-TR,2SK543-TB (4/5)
	87-026-463-080		TR,2SA933S
DIODE			
	87-A40-270-080		C-DIODE,MC2838
	87-A40-116-060		DIODE,RS403L-B-D-51
	87-A40-115-060		DIODE,RS603M
	87-017-437-080		DIODE,1N4148M
	87-A40-246-080		DIODE,1N4148T-72
	87-A40-269-080		C-DIODE,MC2836
	87-070-274-080		DIODE,1N4003 SEM
	87-A40-344-080		ZENER,MTZJ6.2C
	87-A40-341-080		ZENER,MTZJ36A
	87-A40-345-080		ZENER,MTZJ10C
	87-070-136-080		ZENER,MTZJ5.1B
	87-070-178-090		DIODE,1N5402-BD54
	87-A40-004-080		ZENER,MTZJ16A
	87-A40-003-080		ZENER,MTZJ4.3A
	87-017-931-080		ZENER,MTZJ5.6B
	87-A40-234-080		ZENER,MTZJ5.6A
MAIN C.B			
	88-906-241-110		FF-CABLE,6P 1.25
C101	87-016-520-090		CAP,E 3300-65 M SMG
C102	87-016-520-090		CAP,E 3300-65 M SMG
C103	87-010-928-090		CAP,E 4700-25 M SMG
C104	87-010-928-090		CAP,E 4700-25 M SMG
C105	87-012-368-080		C-CAP,S 0.1-50 Z F
C106	87-012-368-080		C-CAP,S 0.1-50 Z F
C107	87-012-368-080		C-CAP,S 0.1-50 Z F
C108	87-012-368-080		C-CAP,S 0.1-50 Z F
C109	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C110	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C111	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C112	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C113	87-010-247-080		CAP,E 100-50 M SME
C116	87-010-247-080		CAP,E 100-50 M SME
C117	87-010-430-080		CAP,E 100-63 M SME
C118	87-010-263-080		CAP,E 100-10 SME
C119	87-010-260-080		CAP,E 47-25 SME
C120	87-010-403-080		CAP,E 3.3-50 M SME
C121	87-012-140-080		C-CAP,S 470P-50 J CH
C123	87-010-247-080		CAP,100-50 M SME
C124	87-010-112-080		CAP,E 100-16 M SME
C125	87-010-235-080		CAP,E 470-16 SME
C126	87-012-369-080		C-CAP,S 0.047-50 Z F
C127	87-012-369-080		C-CAP,S 0.047-50 Z F
C129	87-010-393-080		CAP,E 100-35 M SME
C201	87-010-401-080		CAP,E 1-50 M SME
C202	87-010-401-080		CAP,E 1-50 M SME
C205	87-010-181-080		C-CAP,S 1800P-50K B
C206	87-010-181-080		C-CAP,S 1800P-50K B
C207	87-010-404-080		CAP,E 4.7-50 M SME
C208	87-010-404-080		CAP,E 4.7-50 M SME
C209	87-010-404-080		CAP,E 4.7-50 M SME
C210	87-010-404-080		CAP,E 4.7-50 M SME
C211	87-010-186-080		C-CAP,S 4700P-50 K B
C212	87-010-186-080		C-CAP,S 4700P-50 K B
C213	87-010-260-080		CAP,E 47-25 SME
C214	87-010-260-080		CAP,E 47-25 SME
C215	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C219	87-012-368-080		C-CAP,S 0.1-50 Z F
C220	87-012-368-080		C-CAP,S 0.1-50 Z F
C221	87-012-368-080		C-CAP,S 0.1-50 Z F
C222	87-012-368-080		C-CAP,S 0.1-50 Z F
C223	87-010-194-080		C-CAP,S 0.047-25 Z F
C225	87-A10-516-080		C-CAP,S 100P-200 J C
C226	87-A10-516-080		C-CAP,S 100P-200 J C
C227	87-010-197-080		C-CAP,S 0.01-25 K B
C228	87-010-178-080		C-CAP,S 1000P-50 K B
C229	87-016-461-080		C-CAP,S 0.47-16 Z F
C230	87-016-461-080		C-CAP,S 0.47-16 Z F
C231	87-010-176-080		C-CAP,S 680P-50 J SL
C232	87-010-176-080		C-CAP,S 680P-50 J SL
C233	87-010-318-080		C-CAP,S 47P-50 J SL
C234	87-010-318-080		C-CAP,S 47P-50 J SL
C235	87-010-213-080		C-CAP,S 0.015-25 K B
C236	87-010-213-080		C-CAP,S 0.015-25 K B
C237	87-010-197-080		C-CAP,S 0.01-25 K B
C238	87-010-197-080		C-CAP,S 0.01-25 K B
C239	87-010-318-080		C-CAP,S 47P-50 J CH
C240	87-010-318-080		C-CAP,S 47P-50 J CH
C242	87-010-406-080		CAP,E 22-50 M SME
C243	87-010-197-080		C-CAP,S 0.01-25 K B
C244	87-010-406-080		CAP,E 22-50 M SME
C301	87-010-318-080		C-CAP,S 47P-50 J CH
C302	87-010-318-080		C-CAP,S 47P-50 J CH
C303	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C304	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C305	87-012-145-080		C-CAP,S 270P-50 J CH
C306	87-012-145-080		C-CAP,S 270P-50 J CH
C307	87-010-196-080		C-CAP,S 0.1-25 Z F
C311	87-010-198-080		C-CAP,S 0.022-25 K B
C312	87-010-198-080		C-CAP,S 0.022-25 K B
C313	87-010-180-080		C-CAP,S 1500P-50 K B
C314	87-010-180-080		C-CAP,S 1500P-50 K B
C315	87-010-178-080		C-CAP,S 1000P-50 K B
C316	87-010-178-080		C-CAP,S 1000P-50 K B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C317	87-012-142-080		C-CAP,S 0.33-16 Z F
C318	87-012-142-080		C-CAP,S 0.33-16 Z F
C319	87-012-141-080		C-CAP,S 0.22-16 Z F
C320	87-012-141-080		C-CAP,S 0.22-16 Z F
C321	87-012-141-080		C-CAP,S 0.22-16 Z F
C322	87-012-141-080		C-CAP,S 0.22-16 Z F
C324	87-010-260-080		CAP,E 47-25 SME
C325	87-010-370-080		CAP,E 330-6.3 M SME
C327	87-010-404-080		CAP,E 4.7-50 M SME
C328	87-010-404-080		CAP,E 4.7-50 M SME
C332	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C335	87-010-401-080		CAP,E 1-50 M SME
C336	87-010-401-080		CAP,E 1-50 M SME
C337	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C339	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C340	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C351	87-012-140-080		C-CAP,S 470P-50 J CH
C352	87-012-140-080		C-CAP,S 470P-50 J CH
C354	87-010-175-080		C-CAP,S 560P-50 J SL
C355	87-012-349-080		C-CAP,S 1000P-50 J CH
C356	87-010-260-080		CAP,E 47-25 SME
C357	87-010-197-080		C-CAP,S 0.01-25 K B
C358	87-010-183-080		C-CAP,S 2700P-50 K B
C359	87-010-183-080		C-CAP,S 2700P-50 K B
C360	87-010-183-080		C-CAP,S 2700P-50 K B
C370	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C371	87-010-179-080		C-CAP,S 1200P-50 K B
C372	87-010-179-080		C-CAP,S 1200P-50 K B
C373	87-010-179-080		C-CAP,S 1200P-50 K B
C374	87-010-179-080		C-CAP,S 1200P-50 K B
C375	87-010-545-080		CAP,0.22-50 M SME
C376	87-010-545-080		CAP,0.22-50 M SME
C378	87-010-196-080		C-CAP,S 0.1-25 Z F
C381	87-010-197-080		C-CAP,S 0.01-25 K B
C382	87-010-318-080		C-CAP,S 47P-50 J CH
C383	87-010-197-080		C-CAP,S 0.01-25 K B
C384	87-010-402-080		CAP,E 2.2-50 M SME
C385	87-010-184-080		C-CAP,S 3300P-50 K B
C386	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C388	87-010-154-080		C-CAP,S 10P-50 D CH
C401	87-010-187-080		C-CAP,S 5600P-50 K B
C402	87-010-187-080		C-CAP,S 5600P-50 K B
C403	87-010-405-080		CAP,E 10-50 M SME
C404	87-010-405-080		CAP,E 10-50 M SME
C405	87-010-260-080		CAP,E 47-25 SME
C406	87-010-101-080		CAP,E 220-16 SME
C407	87-010-188-080		C-CAP,S 6800P-50 K B
C408	87-010-188-080		C-CAP,S 6800P-50 K B
C409	87-012-140-080		C-CAP,S 470P-50 J CH
C410	87-012-140-080		C-CAP,S 470P-50 J CH
C411	87-010-197-080		C-CAP,S 0.01-25 K B
C412	87-010-197-080		C-CAP,S 0.01-25 K B
C413	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C414	87-010-195-080		C-CAP,S 0.068-25 Z F C2012
C415	87-010-404-080		CAP,E 4.7-50 M SME
C416	87-010-404-080		CAP,E 4.7-50 M SME
C417	87-010-404-080		CAP,E 4.7-50 M SME
C418	87-010-404-080		CAP,E 4.7-50 M SME
C420	87-010-197-080		CAP,S 0.01-25 K B
C421	87-010-401-080		CAP,E 1-50 M SME
C422	87-010-401-080		CAP,E 1-50 M SME
C516	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C601	87-010-322-080		C-CAP,S 100P-50J C H
C602	87-010-322-080		C-CAP,S 100P-50J C H
C605	87-010-180-080		C-CAP,S 1500P-50 K B
C606	87-010-180-080		C-CAP,S 1500P-50 K B
C609	87-010-322-080		C-CAP,S 100P-50J C H
C610	87-010-322-080		C-CAP,S 100P-50J C H
C611	87-016-081-080		C-CAP,S 0.1-16 R K
C613	87-010-404-080		CAP,E 4.7-50 M SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C614	87-010-404-080		CAP,E 4.7-50 M SME
C615	87-010-183-080		C-CAP,S 2700P-50 K B
C619	87-010-263-080		CAP,E 100-10 SME
C620	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C621	87-010-263-080		CAP,E 100-10 SME
C622	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C623	87-010-194-080		C-CAP,S 0.047-25 Z F
C629	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C630	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C631	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C632	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C633	87-010-197-080		C-CAP,S 0.01-25 K B
C636	87-010-322-080		C-CAP,S 100P-50J C H
C637	87-010-322-080		C-CAP,S 100P-50J C H
C646	87-010-322-080		C-CAP,S 100P-50J C H
C647	87-010-322-080		C-CAP,S 100P-50J C H
C701	87-010-381-080		CAP,E 330-16 SME
C702	87-010-404-080		CAP,E 4.7-50 M SME
C703	87-010-197-080		C-CAP,S 0.01-25 K B
C704	87-010-197-080		C-CAP,S 0.01-25 K B
C711	87-010-263-080		CAP,E 100-10 SME
C712	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C713	87-010-197-080		C-CAP,S 0.01-25 K B
C714	87-010-197-080		C-CAP,S 0.01-25 K B
C715	87-010-322-080		C-CAP,S 100P-50J C H
C721	87-010-312-080		C-CAP,S 15P-50 J CH
C722	87-010-312-080		C-CAP,S 15P-50 J CH
C723	87-010-178-080		C-CAP,S 1000P-50 K B
C725	87-010-178-080		C-CAP,S 1000P-50 K B
C727	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C728	87-010-248-080		CAP,E 220-10 SME
C755	87-010-197-080		C-CAP,S 0.01-25 K B
C756	87-010-197-080		C-CAP,S 0.01-25 K B
C757	87-010-318-080		C-CAP,S 47P-50 J CH
C758	87-010-149-080		C-CAP,S 5P-50 CH
C761	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C762	87-010-197-080		C-CAP,S 0.01-25 K B
C763	87-010-194-080		C-CAP,S 0.047-25 Z F
C765	87-010-197-080		C-CAP,S 0.01-25 K B
C766	87-010-197-080		C-CAP,S 0.01-25 K B
C767	87-010-405-080		CAP,E 10-50 M SME
C768	87-010-197-080		C-CAP,S 0.01-25 K B
C769	87-010-408-080		CAP,E 47-50 SME
C770	87-015-821-080		C-CAP, 0.047-50 Z F GR
C771	87-010-407-080		CAP,E 33-50 SME
C772	87-010-194-080		C-CAP,S 0.047-25 Z F
C773	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C774	87-010-263-080		CAP,E 100-10 SME
C775	87-010-404-080		CAP,E 4.7-50 M SME
C776	87-010-197-080		C-CAP,S 0.01-25 K B
C777	87-010-400-080		CAP,E 0.47-50 M SME
C778	87-010-401-080		CAP,E 1-50 M SME
C779	87-010-401-080		CAP,E 1-50 M SME
C780	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C781	87-010-405-080		CAP,E 10-50 M SME
C782	87-010-405-080		CAP,E 10-50 M SME
C783	87-015-819-080		C-CAP,0.01-50 K B
C784	87-010-197-080		C-CAP,S 0.01-25 K B
C785	87-010-400-080		CAP,E 0.47-50 M SME
C786	87-010-400-080		CAP,E 0.47-50 M SME
C787	87-010-184-080		C-CAP,S 3300P-50 K B
C788	87-010-184-080		C-CAP,S 3300P-50 K B
C789	87-010-179-080		C-CAP,S 1200P-50 K B
C790	87-010-179-080		C-CAP,S 1200P-50 K B
C791	87-010-405-080		CAP,E 10-50 M SME
C793	87-010-178-080		C-CAP,S 1000P-50 K B<K,V>
C793	87-012-156-080		C-CAP,S 220P-50J CH<EZ>
C794	87-010-406-080		CAP,E 22-50 M SME
C795	87-010-596-080		C-CAP,S 0.047-16 R K
C796	87-010-403-080		CAP,E 3.3-50 M SME

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C797	87-010-180-080		C-CAP,S 1500P-50 K B
C798	87-010-180-080		C-CAP,S 1500P-50 K B
C799	87-010-194-080		C-CAP,S 0.047-25 Z F
C812	87-010-197-080		C-CAP,S 0.01-25 K B
C814	87-010-197-080		C-CAP,S 0.01-25 K B
C820	87-010-408-080		CAP,E 47-50 SME
C821	87-010-197-080		C-CAP,S 0.01-25 K B
C822	87-010-197-080		C-CAP,S 0.01-25 K B
C823	87-010-197-080		C-CAP,S 0.01-25 K B
C828	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C829	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C859	87-010-197-080		C-CAP,S 0.01-25 K B <EZ>
C861	87-012-156-080		C-CAP,S 220P-50J C H<EZ>
C862	87-012-156-080		C-CAP,S 220P-50J C H<EZ>
C863	87-012-140-080		C-CAP,S 470P-50J C H<EZ>
C864	87-010-405-080		CAP,E 10-50 M SME<EZ>
C865	87-010-196-080		C-CAP,S 0.1-25 Z F C2012<EZ>
C866	87-010-405-080		CAP,E 10-50 M SME<EZ>
C867	87-010-197-080		C-CAP,S 0.01-25 K B<EZ>
C868	87-010-316-080		C-CAP,S 33P-50 J CH<EZ>
C869	87-010-316-080		C-CAP,S 22P-50 J CH<EZ>
C940	87-010-197-080		C-CAP,S 0.01-25 K B
C942	87-010-151-080		C-CAP,S 7P-50D C H
C947	87-010-197-080		C-CAP,S 0.01-25 K B
C952	87-010-197-080		C-CAP,S 0.01-25 K B
C957	87-010-311-080		C-CAP,S 12P-50J C H
C958	87-010-197-080		C-CAP,S 0.01-25 K B
C959	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C960	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C962	87-010-401-080		CAP,E 1-50 M SME
CF801	87-008-423-010		FLTR,IF SFE10.7MS3G-A
CF802	87-785-747-010		CF,MS2 GHY,R
FB301	87-008-372-080		FLTR,EMIBLO1 RN1
FFE801	A8-6ZA-195-030		6ZA-1 YFEENM<EZ,K>
FFE801	A8-6ZA-193-030		6ZA-1 FEVNM<V>
J252	87-A60-024-010		JACK,DIA 6.3 BLK ST W/SW KM
J253	87-099-474-010		JACK,PIN 3P BLK W/SW
J254	87-A60-238-010		TERMINAL,SP 4P (MSC)
J601	87-A60-426-010		JACK,PIN 6P 3835
J801	87-A60-202-010		TERMINAL,ANT 4P MSP-154V-2<V>
J801	87-A60-427-010		TERMINAL,ANT PAL 2P<EZ,K>
L201	87-003-383-010		COIL,1UH K
L202	87-003-383-010		COIL,1UH K
L301	87-A50-049-010		COIL,TRAP 85K(COI)
L302	87-A50-049-010		COIL,TRAP 85K(COI)
L351	87-007-342-010		COIL,OSC 85KHZ BIAS
L601	87-003-231-089		C-COIL,1UH
L770	87-005-849-080		COIL,10UH K CECS
L771	87-A50-165-010		COIL,FM DET-N(TOK)
L772	87-A90-245-010		FLTR,CFAZH-450(TOK)
L791	87-A50-027-010		COIL,1 POLE MPX (TOK)
L792	87-A50-027-010		COIL,1 POLE MPX (TOK)
L832	87-005-847-080		COIL,2.2UH K CECS
L850	87-005-847-080		COIL,2.2UH K CECS<EZ>
L941	87-A50-020-010		COIL,ANT LW (COI)252KHZ
L942	87-A50-019-010		COIL,OSC LW (COI) 856KHZ
L981	87-NF4-668-010		COIL,AM PACK2(TOM)
⚠ PR201	87-026-682-080		PROTECTOR,10A 60V
⚠ PR202	87-026-682-080		PROTECTOR,10A 60V
R229	87-A00-257-080		RES,M/F 0.15-1W J
R230	87-A00-257-080		RES,M/F 0.15-1W J
RY101	87-045-389-010		RELAY,12V OSA-SS-212DM5
RY201	87-045-382-010		RELAY,12V QUAZ-SH 1121
SFR301	87-024-435-080		SFR,33K H RH063MC
SFR302	87-024-435-080		SFR,33K H RH063MC
SFR303	87-024-435-080		SFR,33K H RH063MC
SFR304	87-024-435-080		SFR,33K H RH063MC
SFR305	87-024-436-080		SFR,47K H RH063MC
SFR306	87-024-436-080		SFR,47K H RH063MC
SFR351	87-024-436-080		SFR,47K H RH063MC

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SFR352	87-024-436-080		SFR,47K H RH063MC
TC942	87-011-221-080		TRIMMER,CER 30P
TH201	87-A90-221-080		C-THMS 100K
TH202	87-A90-221-080		C-THMS 100K
W001	85-NF5-628-010		F-CABLE,7P-2.5
X721	87-A70-061-010		VIB,XTAL 4.500MHZ CSA-309
X850	87-KT1-608-010		XTAL 4.332MHZ<EZ>

FRONT C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	85-NF5-618-010		CABLE,FFC 13P-1.25
	85-NF5-615-010		CABLE,FFC 15P-1.25
C101	87-010-198-080		C-CAP,S 0.022-25 K B
C102	87-010-198-080		C-CAP,S 0.022-25 K B
C103	87-010-197-080		C-CAP,S 0.01-25 K B
C104	87-010-312-080		C-CAP,S 15P-50 J CH
C105	87-010-316-080		C-CAP,S 33P-50 J CH
C106	87-010-320-080		C-CAP,S 68P-50 J CH
C107	87-012-157-080		C-CAP,S 330P-50 J CH GRM
C108	87-010-498-040		CAP,E 10-16 5L SRE
C109	87-010-494-040		CAP,E 1-50 5L SRE
C110	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C111	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C112	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C113	87-A10-189-040		CAP,E 220-10 M
C114	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C115	87-010-178-080		C-CAP,S 1000P-50 K B
C116	87-010-494-040		CAP,E 1-50 5L SRE
C117	87-010-550-040		CAP,E 100-6.3 5L SRE
C118	87-010-194-080		C-CAP,S 0.047-25 Z F
C119	87-010-408-040		CAP,E 47-50 M SME
C120	87-010-404-040		CAP,E 4.7-50 SME
C121	87-010-404-040		CAP,E 4.7-50 SME
C122	87-010-194-080		C-CAP,S 0.047-25 Z F
C123	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C124	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C125	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C127	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C128	87-010-178-080		C-CAP,S 1000P-50 K B
C351	87-012-158-080		C-CAP,S 390P-50 J CH GRM
C352	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C353	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C354	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C355	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C356	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C357	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C403	87-010-596-080		C-CAP,S 0.047-16 K R
C404	87-010-596-080		C-CAP,S 0.047-16 K R
C405	87-010-401-040		CAP,E 1-50 M SME
C406	87-010-401-040		CAP,E 1-50 M SME
C407	87-010-184-080		C-CAP,S 3300P-50 K B
C408	87-010-184-080		C-CAP,S 3300P-50 K B
C409	87-010-592-080		C-CAP,S 0.022-16 K R
C410	87-010-592-080		CAP,S 0.022-16 K R
C411	87-016-463-080		C-CAP,0.33-16 K B
C412	87-016-463-080		C-CAP,0.33-16 K B
C413	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C414	87-010-374-040		CAP,E 47-10 SME
C415	87-010-374-040		CAP,E 47-10 SME
C416	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C417	87-016-081-080		C-CAP,S 0.1-16 K R
C418	87-010-405-040		CAP,E 10-50 M SME
C501	87-010-319-080		C-CAP,S 56P-50J CH
C502	87-010-319-080		C-CAP,S 56P-50J CH
C503	87-012-393-080		C-CAP,S 0.22-16 KW5
C504	87-010-197-080		C-CAP,S 0.01-25K B
C505	87-010-180-080		C-CAP,S 1500P-50 K B
C506	87-010-213-080		C-CAP,S 0.015-25 K B
C507	87-010-213-080		C-CAP,S 0.015-25 K B
C508	87-010-197-080		C-CAP,S 0.01-25 K B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C509	87-010-181-080		C-CAP,S 1800P-50 K B
C510	87-010-196-080		C-CAP,S 0.1-25 Z F
C511	87-010-196-080		C-CAP,S 0.1-25 Z F
C512	87-010-374-040		CAP,E 47-10 SME
C513	87-010-494-040		CAP,E 1-50 5L SRE
C514	87-010-494-040		CAP,E 1-50 5L SRE
C515	87-010-183-080		C-CAP,S 2700P-50KB
C516	87-010-183-080		C-CAP,S 2700P-50KB
C518	87-010-196-080		C-CAP,S 0.1-25 Z F
C519	87-015-677-040		CAP,E 100-6.3 M 7L
C523	87-012-141-080		CAP,S 0.22-16 Z F
C601	87-010-560-040		CAP,E 10-50 M 5L MA
C602	87-010-186-080		C-CAP,S 4700P-50 K B
C603	87-010-498-040		CAP,E 10-16 M 5L
C604	87-010-499-040		CAP,E 22-6.3 M 5L
C605	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C606	87-010-322-080		C-CAP,S 100P-50 J CH
C607	87-010-321-080		C-CAP,S 82P-50 J CH
C608	87-010-196-080		C-CAP,S 0.1-25 Z F C2012
C609	87-010-491-040		CAP,E 0.22-50 5L SRE
C610	87-010-322-080		C-CAP,S 100P-50 J CH
C611	87-010-177-080		C-CAP,S 820P-50 J SL
C612	87-010-177-080		C-CAP,S 820P-50 J SL
C614	87-010-248-040		CAP,E 220-10 M SME
FB601	87-008-372-080		FLTR,EMIBL01 RN1
FL101	87-NF6-610-010		FL,BJ531GK
J601	82-NF7-630-010		JACK,3.5MO
J602	82-NF7-630-010		JACK,3.5MO
L501	87-005-448-080		COIL,220UH K FLR50
LED201	87-A40-317-080		LED,SLR-342VCT31 RED
LED202	87-A40-317-080		LED,SLR-342VCT31 RED
LED203	87-A40-317-080		LED,SLR-342VCT31 RED
LED204	87-A40-317-080		LED,SLR-342VCT31 RED
LED205	87-A40-317-080		LED,SLR-342VCT31 RED
LED206	87-A40-316-080		LED,SLR-56PCT31 GRN
LED207	87-A40-316-080		LED,SLR-56PCT31 GRN
LED208	87-A40-316-080		LED,SLR-56PCT31 GRN
LED209	87-A40-316-080		LED,SLR-56PCT31 GRN
LED210	87-A40-316-080		LED,SLR-56PCT31 GRN
LED211	87-A40-316-080		LED,SLR-56PCT31 GRN
LED212	87-A40-316-080		LED,SLR-56PCT31 GRN
LED213	87-A40-316-080		LED,SLR-56PCT31 GRN
LED214	87-A40-316-080		LED,SLR-56PCT31 GRN
LED215	87-A40-316-080		LED,SLR-56PCT31 GRN
LED216	87-A40-264-080		LED,SLH-56PCTE7 GRN
LED217	87-A40-264-080		LED,SLH-56PCTE7 GRN
LED218	87-A40-264-080		LED,SLH-56PCTE7 GRN
LED219	87-A40-264-080		LED,SLH-56PCTE7 GRN
LED220	87-A40-264-080		LED,SLH-56PCTE7 GRN
LED221	87-A40-264-080		LED,SLH-56PCTE7 GRN
LED233	87-A40-265-010		LED,SLH-56PCL GRN
LED234	87-A40-265-010		LED,SLH-56PCL GRN
LED235	87-A40-267-010		LED,SLH-56VCL RED
LED236	87-A40-267-010		LED,SLH-56VCL RED
LED237	87-A40-265-010		LED,SLH-56PCL GRN
LED238	87-A40-265-010		LED,SLH-56PCL GRN
S302	87-A90-164-080		SW,TACT SKQNAB(N)
S303	87-A90-164-080		SW,TACT SKQNAB(N)
S304	87-A90-164-080		SW,TACT SKQNAB(N)
S305	87-A90-164-080		SW,TACT SKQNAB(N)
S306	87-A90-164-080		SW,TACT SKQNAB(N)
S307	87-A90-164-080		SW,TACT SKQNAB(N)
S308	87-A90-164-080		SW,TACT SKQNAB(N)
S314	87-A90-164-080		SW,TACT SKQNAB(N)
S315	87-A90-164-080		SW,TACT SKQNAB(N)
S316	87-A90-164-080		SW,TACT SKQNAB(N)
S317	87-A90-164-080		SW,TACT SKQNAB(N)
S318	87-A90-164-080		SW,TACT SKQNAB(N)
S319	87-A90-164-080		SW,TACT SKQNAB(N)
S320	87-A90-164-080		SW,TACT SKQNAB(N)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
S323	87-A90-164-080		SW,TACT SKQNAB(N)
S324	87-A90-164-080		SW,TACT SKQNAB(N)
S325	87-A90-164-080		SW,TACT SKQNAB(N)
S326	87-A90-164-080		SW,TACT SKQNAB(N)
S327	87-A90-164-080		SW,TACT SKQNAB(N)
S328	87-A90-164-080		SW,TACT SKQNAB(N)
S331	87-A90-164-080		SW,TACT SKQNAB(N)
S332	87-A90-164-080		SW,TACT SKQNAB(N)
S333	87-A90-164-080		SW,TACT SKQNAB(N)
S334	87-A90-164-080		SW,TACT SKQNAB(N)
S335	87-A90-164-080		SW,TACT SKQNAB(N)
S337	87-A90-164-080		SW,TACT SKQNAB(N)
S339	87-A90-164-080		SW,TACT SKQNAB(N)<EZ>
S340	87-A90-164-080		SW,TACT SKQNAB(N)<EZ>
S341	87-A90-164-080		SW,TACT SKQNAB(N)<EZ>
S342	87-A90-164-080		SW,TACT SKQNAB(N)
SW101	87-A90-535-010		SW,RTRY EC16B24304
X101	87-A70-070-080		VIB,CER 5.76MHZ CRHF

KEY C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
S365	87-A90-164-080		SW,TACT SKQNAB(N)
S366	87-A90-164-080		SW,TACT SKQNAB(N)
S367	87-A90-164-080		SW,TACT SKQNAB(N)
S368	87-A90-164-080		SW,TACT SKQNAB(N)
S369	87-A90-164-080		SW,TACT SKQNAB(N)

AC1 C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ FC1	87-A90-505-080		FUSE CLAMP,TP00351-5
⚠ FC2	87-A90-505-080		FUSE CLAMP,TP00351-5
⚠ F101	87-035-364-010		FUSE,1.6A 250V T
⚠ PT101	87-NF6-624-010		PT,7NF-6 EZK
⚠ T1	87-A60-317-010		TERMINAL, 1P MSC
⚠ T2	87-A60-317-010		TERMINAL, 1P MSC

AC2 C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
⚠ PR001	87-026-682-080		PROTECTOR,10A 60V
⚠ PR002	87-026-682-080		PROTECTOR,10A 60V
⚠ PR005	87-026-682-080		PROTECTOR,10A 60V
⚠ PR006	87-026-682-080		PROTECTOR,10A 60V

DECK C.B

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
CON502	87-099-756-010		CONN,15P 9604 S F
SFR1	87-024-581-089		SFR,3.3K DIA 6H
SOL1	82-ZM1-618-010		SOL ASSY, 27
SOL2	82-ZM1-618-010		SOL ASSY, 27
SW1	87-A90-248-010		SW, MICRO ESE11SH2CXQ
SW2	87-A90-248-010		SW, MICRO ESE11SH2CXQ
SW3	87-A90-248-010		SW, MICRO ESE11SH2CXQ
SW4	87-036-110-010		SW, MICRO SPPB62
SW5	87-036-110-010		SW, MICRO SPPB62
SW6	87-036-110-010		SW, MICRO SPPB62
SW8	87-A90-248-010		SW, MICRO ESE11SH2CXQ
SW9	87-036-110-010		SW, MICRO SPPB62
W1	82-ZM3-601-019		RBN,CORD 4P-75

HEAD-1 C.B

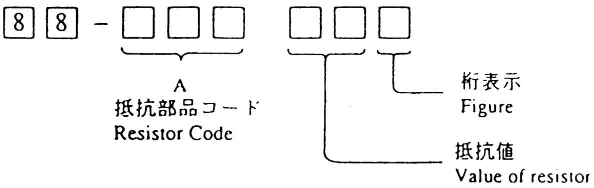
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	85-ZM3-602-010		PWB,FLEX A

HEAD-2 C.B

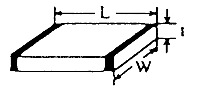
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
	85-ZM3-602-010		PWB,FLEX A

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

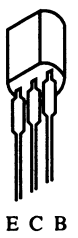
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 -
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

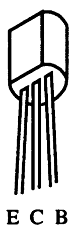
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード :A Resistor Code: A
				外形／Form	L	W	t	
1／16W	1608	±5%	CJ		1.6	0.8	0.45	108
1／10W	2125	±5%	CJ		2	1.25	0.45	118
1／8W	3216	±5%	CJ		3.2	1.6	0.55	128

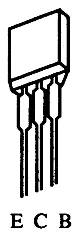
TRANSISTOR ILLUSTRATION



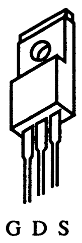
KTA1266GR
KTC3198GR



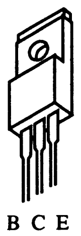
CSD1489B
CSB1058B



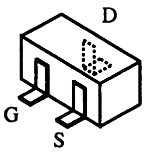
2SA933S



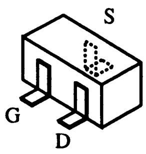
2SK2723



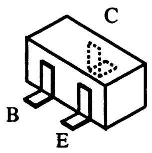
2SB1370
FN1016
FP1016



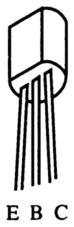
2SK2158



2SK543

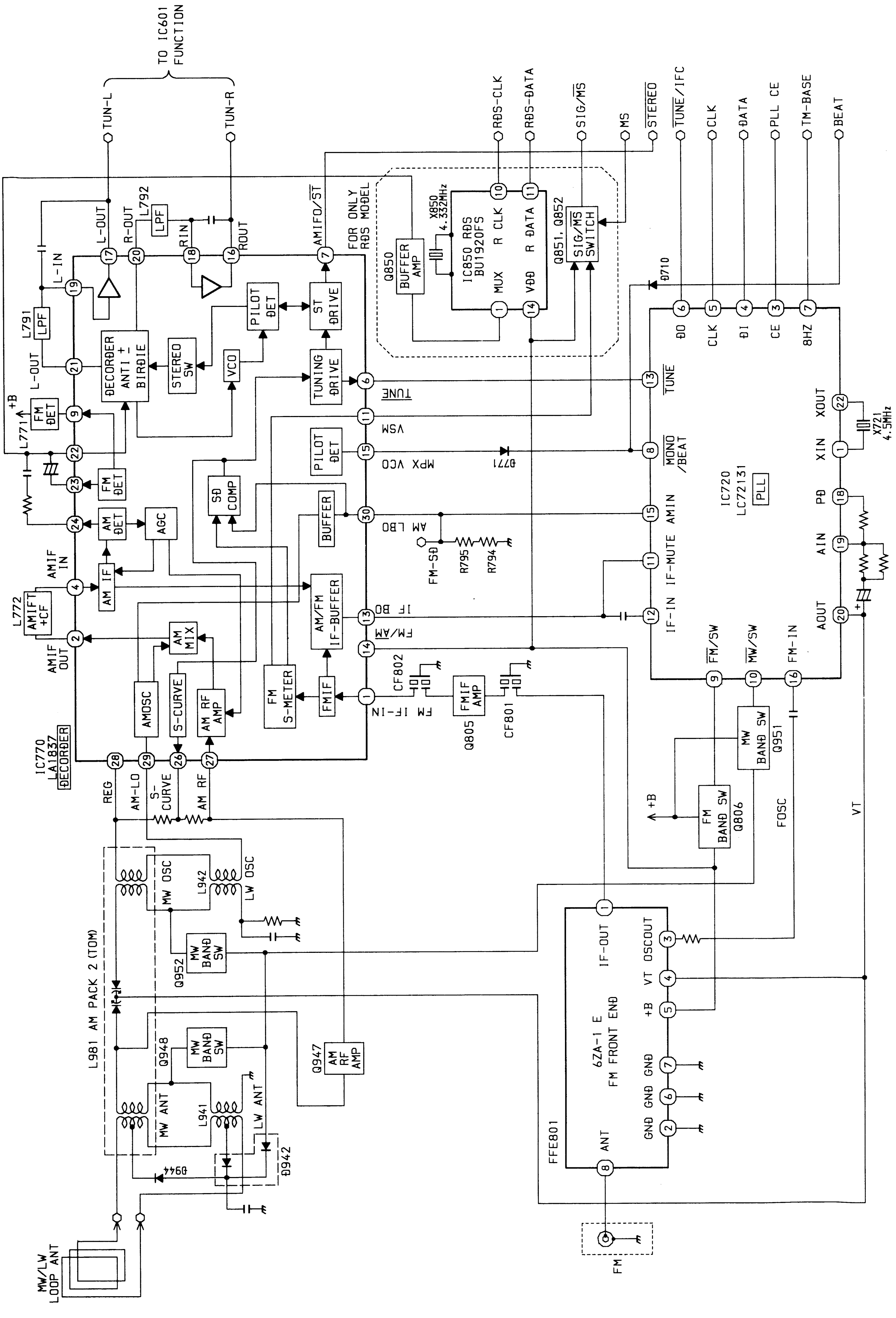


2SC2714	CSA1362GR
RN1410	RT1N144C
2SC3052F	CSD1306E
2SA1235F	CMBT5551
RT1N141C	RT1P144C
RT1P141C	



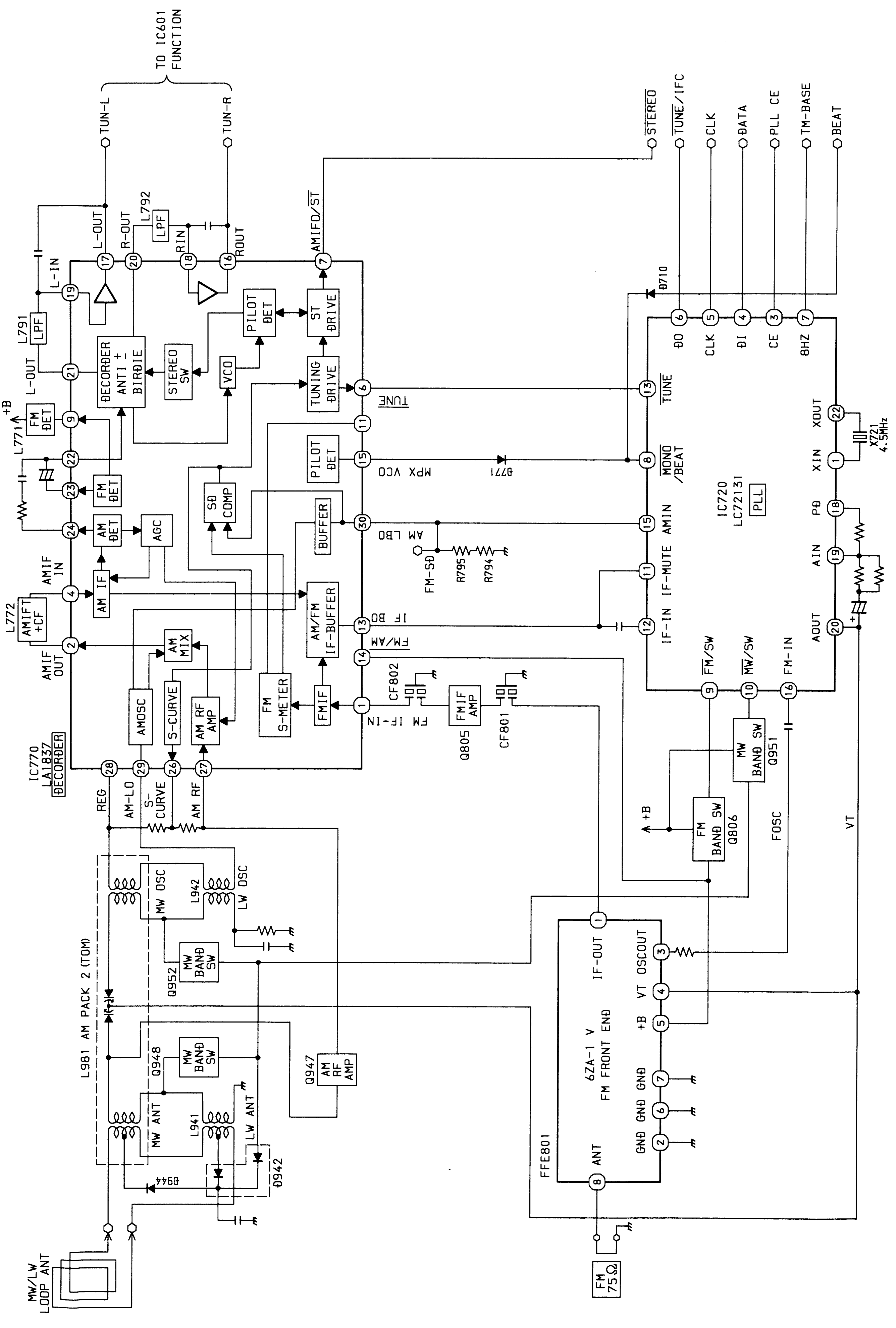
C2N5401

BLOCK DIAGRAM - 1 (TUNER : EZ, K)

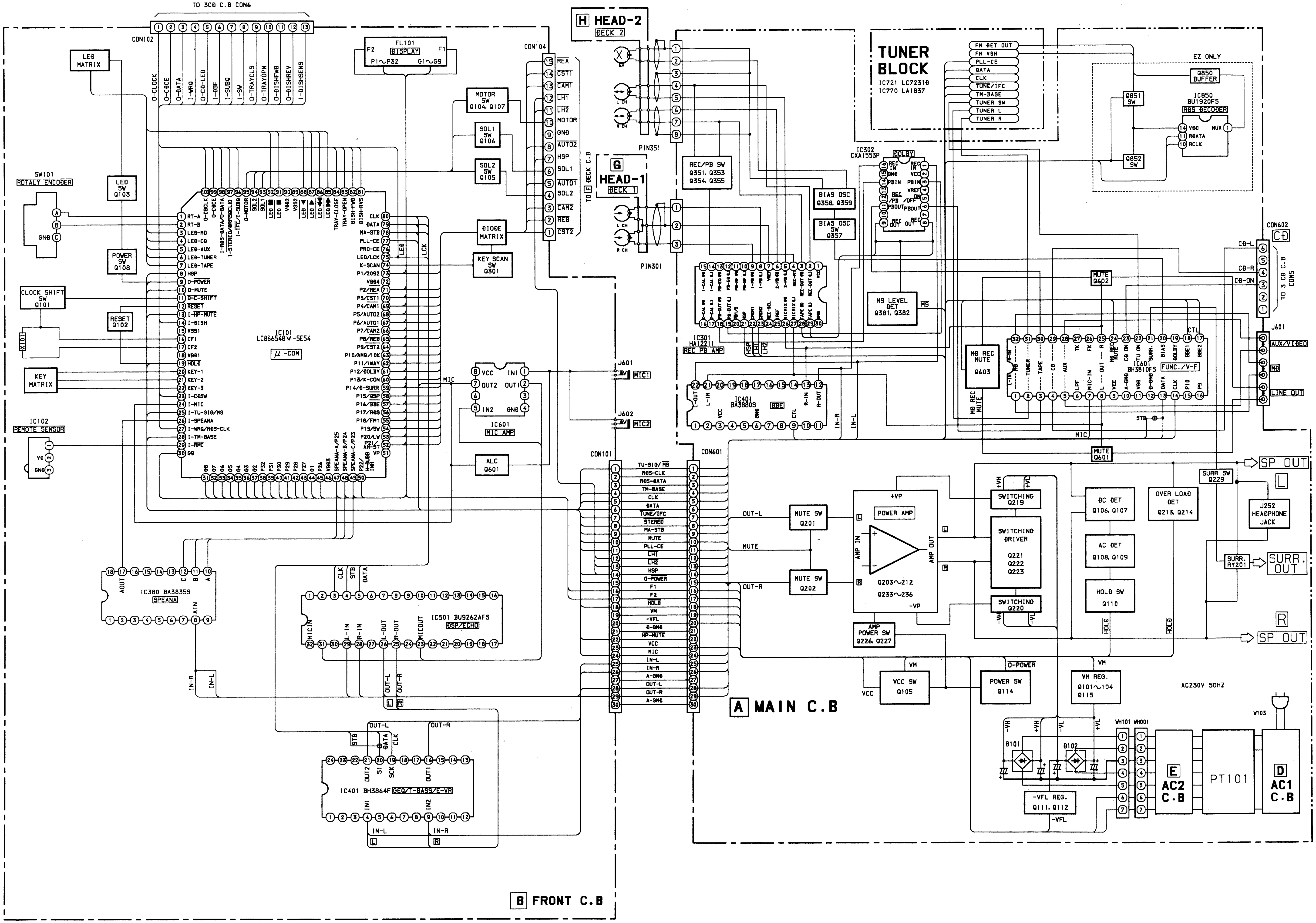


TO IC601 FUNCTION
TUN-L
TUN-R
RDS-CLK
RDS-DATA
SIG/MS
MS
STEREO
TUNE/IFC
CLK
DATA
PLL CE
TM-BASE
BEAT
L-OUT
R-OUT
L792
LPF
RIN
ROUT
AMIFO/ST
FOR ONLY RDS MODEL
Q850 BUFFER AMP
X850 4.332MHz
IC850 RDS BU1920FS
MUX
R CLK
R DATA
VDD
Q851, Q852 SIG/MS SWITCH
D710
L-IN
L791 LPF
PILOT DET
ST DRIVE
DECORDER ANTI + BIRDIE
STEREO SW
VCO
TUNING DRIVE
TUNE
L-OUT
+B
L771
FM DET
VSM
PILOT DET
MPX VCO
D771
FM DET
SD COMP
BUFFER
AM LBO
FM-SD
R795
R794
AM DET
AGC
AMIF IN
AM IF
L772 AMIFT +CF
AM/FM IF-BUFFER
IF BO
AMIF OUT
AM MIX
FM/AM
AMOSC
S-CURVE
AM RF AMP
FM S-METER
FMIF
FM IF-IN
CF802
FMIF AMP
Q805
CF801
IC770 LA1837 DECORDER
REG
AM-LO
S-CURVE
AM RF
DO
CLK
DI
CE
8HZ
XOUT
X721 4.5MHz
MONO/BEAT
XIN
IC720 LC72131 PLL
PD
AMIN
AIN
IF-MUTE
IF-IN
AOUT
FM/SW
MW/SW
FM-IN
MW BAND SW
Q951
FM BAND SW
Q806
+B
FOSC
VT
MW OSC
L942
LW OSC
MW BAND SW
Q952
L981 AM PACK 2 (TOM)
Q948
MW BAND SW
Q947
AM RF AMP
MW ANT
L941
LW ANT
D944
D942
MW/LW LOOP ANT
IF-OUT
OSCOUT
VT
+B
GND
ANT
6ZA-1 E FM FRONT END
FFE801
FM

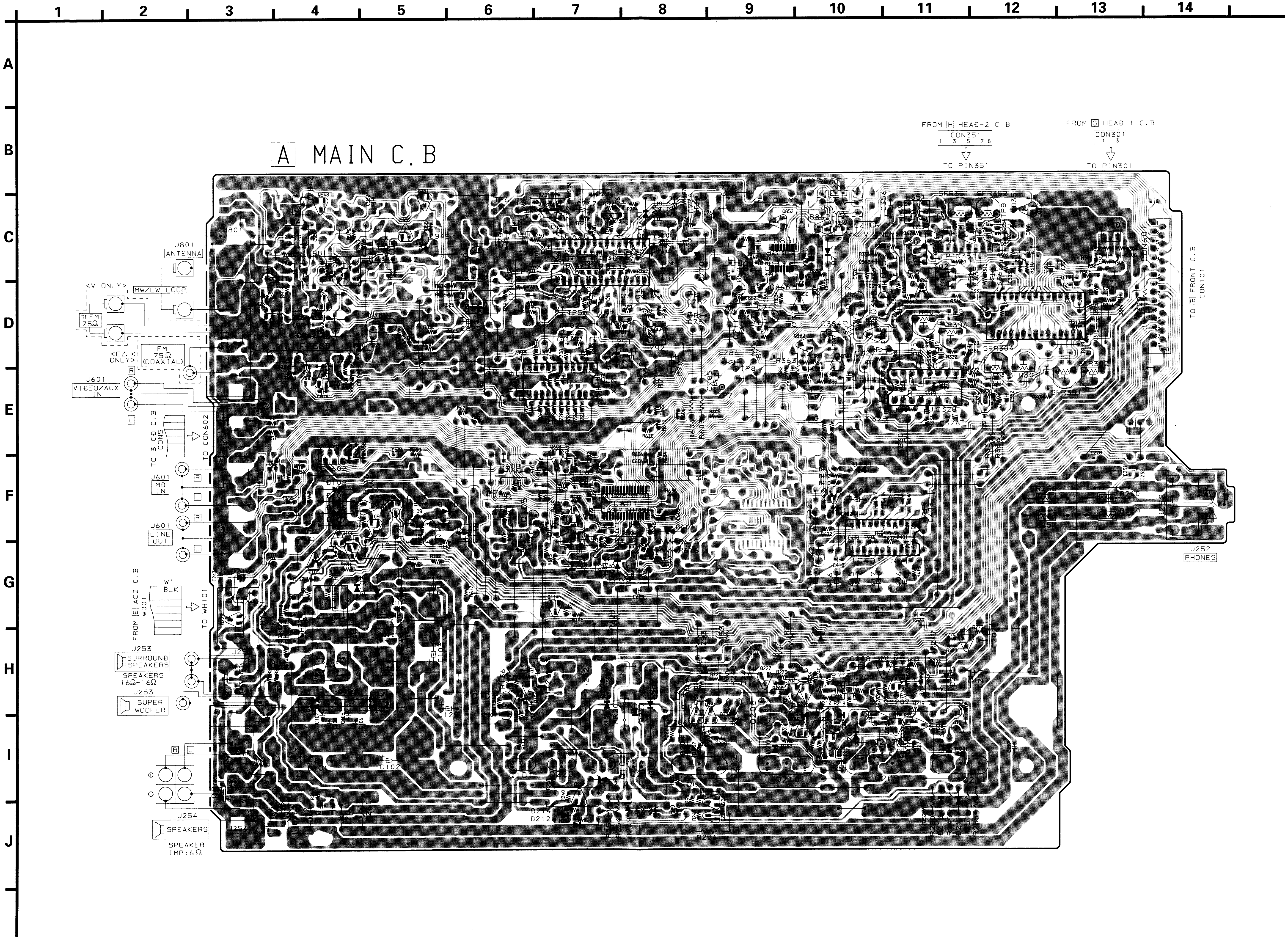
BLOCK DIAGRAM - 2 (TUNER : V)


TO IC601 FUNCTION
TUN-L
TUN-R
STEREO
TUNE/IFC
CLK
DATA
PLL CE
TM-BASE
BEAT
L-OUT
R-OUT
L792
LPF
RIN
ROUT
AMIFO/ST
L-IN
L791
LPF
DECORDER ANTI + - BIRDIE
STEREO SW
VCO
PILOT DET
ST DRIVE
TUNING DRIVE
TUNE
D710
DO
CLK
DI
CE
8HZ
XOUT
XIN
X721 4.5MHz
+B
L771
FM DET
FM DET
AM DET
AGC
SD COMP
BUFFER
PILOT DET
MPX VCO
D771
MONO /BEAT
AM LBO
FM-SD
R795
R794
AMIN
IC720 LC72131 PLL
PD
AIN
AOUT
IF-MUTE
IF-IN
IF BO
AM/FM IF-BUFFER
FM/AM
AMIF IN
L772 AMIFT +CF
AM IF
AM MIX
AMIF OUT
FMIF
FM S-METER
FM IF-IN
CF802
FMIF AMP
Q805
CF801
FM/SW
MW/SW
FM-IN
MW BAND SW Q951
FM BAND SW Q806
+B
FOSC
VT
IC770 LA1837 DECORDER
AMOSC
S-CURVE
AM RF AMP
REG
AM-LO
S-CURVE
AM RF
MW OSC
L942
LW OSC
MW BAND SW Q952
L981 AM PACK 2 (TOM)
MW BAND SW Q948
AM RF AMP Q947
MW ANT
L941
LW ANT
D944
D942
MW/LW LOOP ANT
IF-OUT
OSCOUT
VT
+B
GND
6ZA-1 V FM FRONT END
ANT
FFE801
FM 75Ω
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
26
27
28
29
30

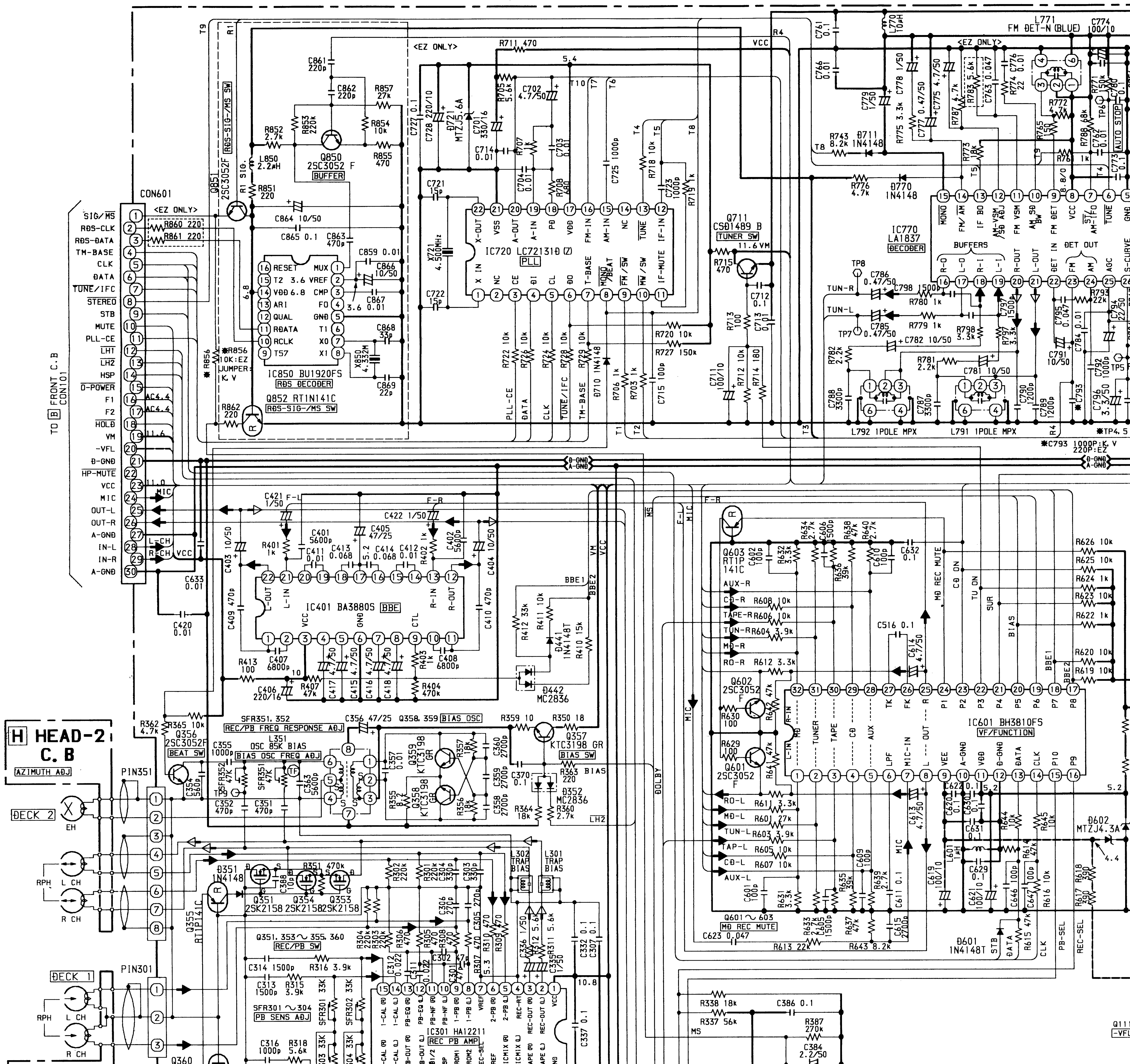
BLOCK DIAGRAM – 3 (MAIN / FRONT)

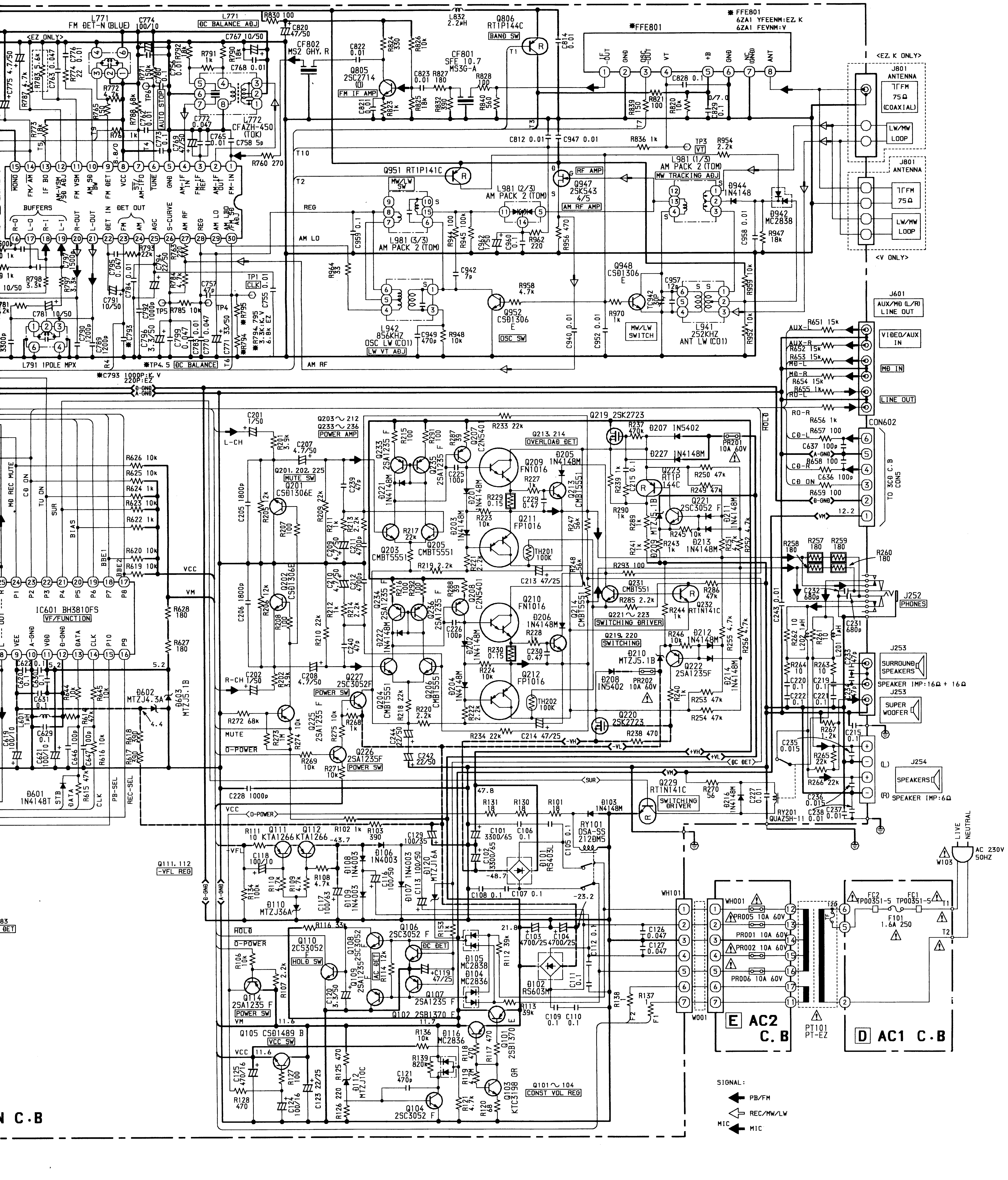

TO 3C0 C.B CON6
CON102
LED MATRIX
LED SW Q103
POWER SW Q108
SW101 ROTALY ENCODER
CLOCK SHIFT SW Q101
RESET Q102
X101
KEY MATRIX
IC102 REMOTE SENSOR
FL101 DISPLAY
F2 F1
P1~P32 G1~G9
MOTOR SW Q104, Q107
SOL1 SW Q106
SOL2 SW Q105
DIODE MATRIX
KEY SCAN SW Q301
CON104
TO E DECK C.B
IC101 LC866548V-5E54
μ-COM
IC601 MIC AMP
ALC Q601
J601 MIC1
J602 MIC2
IC380 BA3835S SPEANA
IC501 BU9262AFS DSP/ECHO
IC401 BH3864F GEQ/T-BASS/E-VR
CON101
B FRONT C.B
H HEAD-2 DECK 2
G HEAD-1 DECK 1
PIN351
PIN301
REC/PB SW Q351, Q353 Q354, Q355
BIAS OSC Q358, Q359
BIAS OSC SW Q357
IC302 CXA1553P DOLBY
IC301 HA12211 REC PB AMP
MS LEVEL DET Q381, Q382
IC401 BA3880S BBE
TUNER BLOCK
IC721 LC72310
IC770 LA1837
FM DET OUT
FM VSM
PLL-CE
DATA
CLK
TUNE/IFC
TM-BASE
TUNER SW
TUNER L
TUNER R
EZ ONLY
Q850 BUFFER
Q851 SW
Q852 SW
IC850 BU1920FS RDS DECODER
CON602 CD
TO 3 CD C.B CON5
MUTE Q602
MD REC MUTE Q603
IC601 BH3810FS FUNC./V-F
J601 AUX/VIDEO
MD
LINE OUT
MUTE Q601
CON601
MUTE SW Q201
MUTE SW Q202
POWER AMP
Q203~212 Q233~236
AMP POWER SW Q226, Q227
SWITCHING Q219
SWITCHING DRIVER Q221 Q222 Q223
SWITCHING Q220
DC DET Q106, Q107
AC DET Q108, Q109
HOLD SW Q110
OVER LOAD DET Q213, Q214
SURR SW Q229
J252 HEADPHONE JACK
SURR. RY201
SP OUT L
SURR. OUT
SP OUT R
VCC SW Q105
POWER SW Q114
VM REG. Q101~104 Q115
-VFL REG. Q111, Q112
D101
D102
WH101 WH001
E AC2 C.B
PT101
D AC1 C.B
W103
AC230V 50HZ
A MAIN C.B

WIRING – 1 (MAIN)

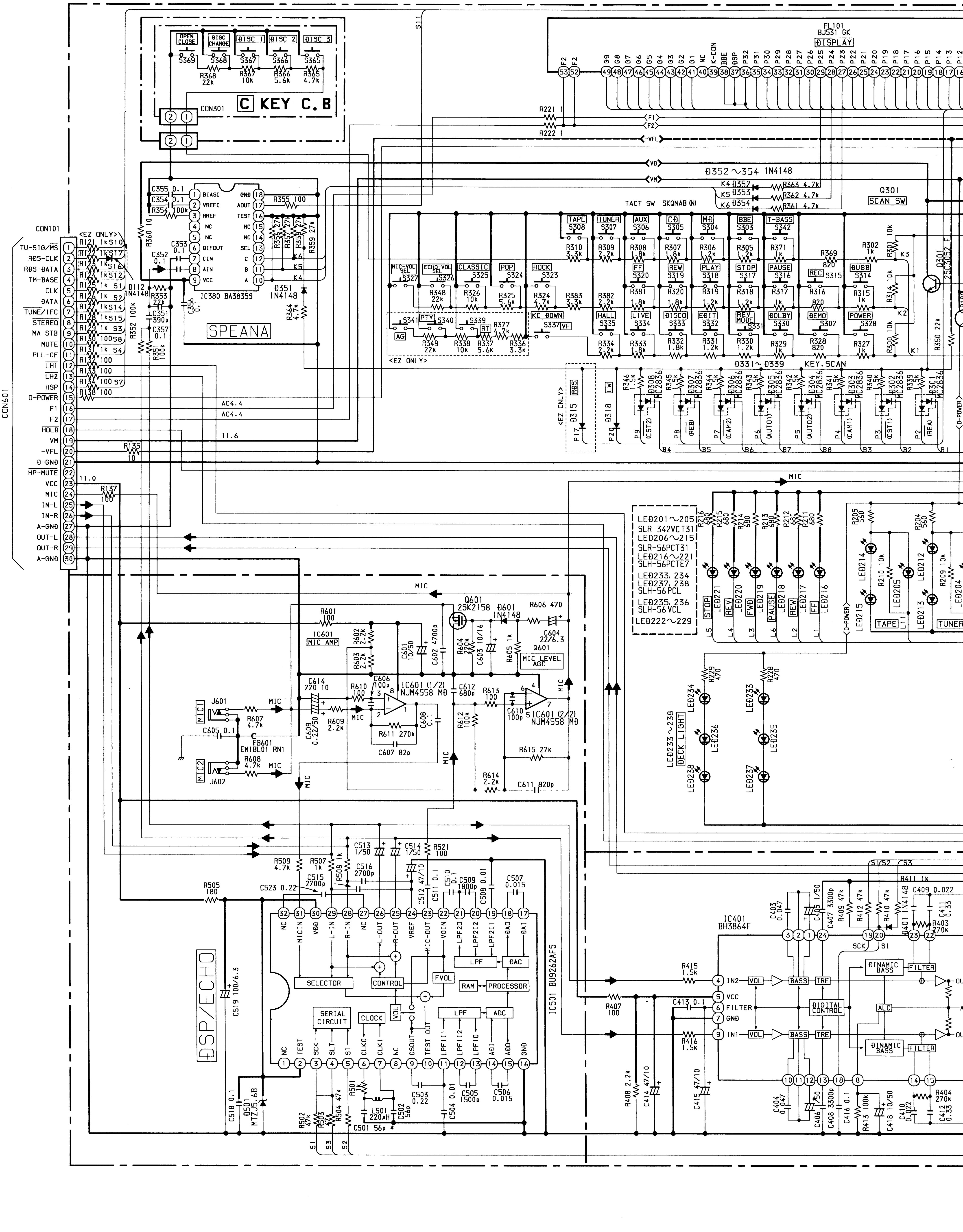

1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
FROM H HEAD-2 C.B
CON351
1 3 5 7 8
TO PIN351
FROM G HEAD-1 C.B
CON301
1 3
TO PIN301
TO B FRONT C.B
CON101
J801
ANTENNA
<V ONLY>
MW/LW LOOP
FM 75Ω
<EZ,K ONLY>
FM 75Ω (COAXIAL)
J601
VIDEO/AUX IN
R
L
TO 3 CD C.B
CON5
TO CON602
J601
MD IN
J601
LINE OUT
FROM E AC2 C.B
W001
W1
BLK
TO WH101
J253
SURROUND SPEAKERS
SPEAKERS 16Ω+16Ω
J253
SUPER WOOFER
J254
SPEAKERS
SPEAKER IMP: 6Ω
J252
PHONES
IC601
IC401
IC301
PIN301
PIN351
SFR351
SFR352
SFR301
SFR302
SFR303
SFR304
Q210
Q209
C102
C103
C129
D212
D214
R254
<EZ ONLY>

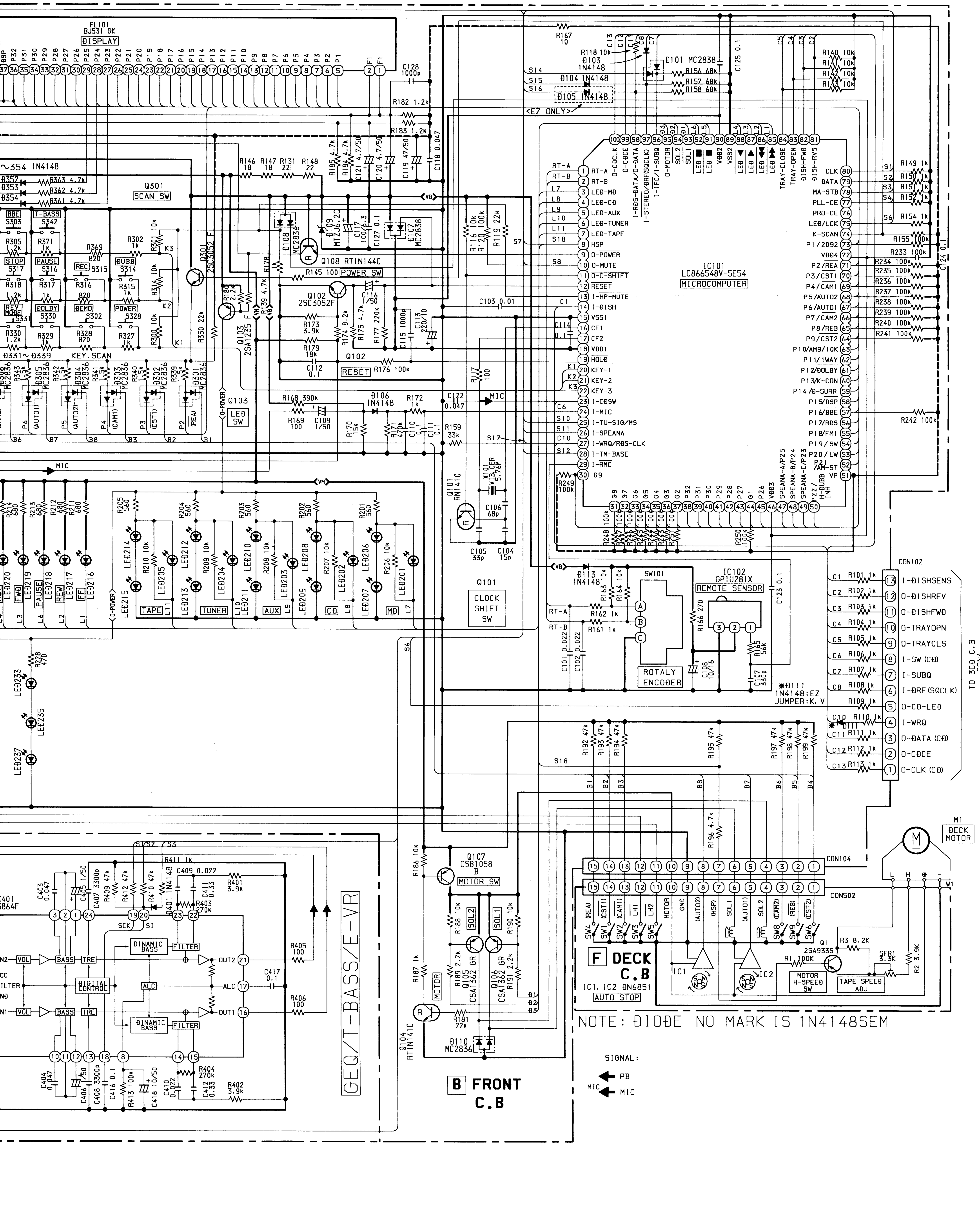
SCHEMATIC DIAGRAM – 1 (MAIN)


CON601
TO [B] FRONT C.B CON101
SIG/MS
RDS-CLK
RDS-DATA
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
STB
MUTE
PLL-CE
LH1
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
VCC
MIC
OUT-L
OUT-R
A-GND
IN-L
IN-R
A-GND
<EZ ONLY>
IC850 BU1920FS
RDS DECODER
Q850 2SC3052 F
BUFFER
Q851 2SC3052F
RDS-SIG-/MS SW
Q852 RT1N141C
RDS-SIG-/MS SW
IC720 LC72131D (Z)
PLL
X721 4.500MHz
D721 MTZJ5.6A
Q711 CSD1489 B
TUNER SW
IC770 LA1837
DECODER
BUFFERS
L771 FM DET-N (BLUE)
L792 1POLE MPX
L791 1POLE MPX
AUTO STOP
IC401 BA3880S
BBE
D441 1N4148T
D442 MC2836
Q356 2SC3052F
BEAT SW
SFR351, 352
REC/PB FREQ RESPONSE ADJ
L351 OSC 85K BIAS
BIAS OSC FREQ ADJ
Q358, 359 BIAS OSC
Q358 KTC3198
Q359 KTC3198 GR
Q357 KTC3198 GR
BIAS SW
D352 MC2836
L302 TRAP BIAS
L301 TRAP BIAS
[H] HEAD-2 C.B
AZIMUTH ADJ
DECK 2
PIN351
RPH
L CH
R CH
EH
D351 1N4148
Q355 RT1P141C
Q351 2SK2158
Q354 2SK2158
Q353 2SK2158
Q351, 353～355, 360
REC/PB SW
SFR301～304
PB SENS ADJ
IC301 HA12211
REC PB AMP
DECK 1
PIN301
[G] HEAD-1 C.B
AZIMUTH ADJ
Q360 RT1N141C
TP2
DECK OUT
IC302 CXA1553P
DOLBY DECODER
SFR305, 306
REC/PB SENSITIVITY ADJ
FB301 EMIBL01 RN1
Q603 RT1P141C
Q602 2SC3052 F
Q601 2SC3052 F
Q601～603
MD REC MUTE
IC601 BH3810FS
VF/FUNCTION
D601 1N4148T
D602 MTZJ4.3A
Q381～383
MS LEVEL DET
Q382 2SC3052 F
Q381 2SC3052 F
MS
DOLBY
PB-SEL
REC-SEL
BIAS
BBE1
BBE2
[A] MAIN C.B


FM DET-N (BLUE)
DC BALANCE ADJ
<EZ ONLY>
CF802 MS2 GHY. R
Q805 2SC2714 (O)
FM IF AMP
CF801 SFE 10.7 MS3G-A
Q806 RT1P144C
BAND SW
✱FFE801
✱FFE801 6ZA1 YFEENM:EZ, K 6ZA1 FEVNM:V
IF OUT
GND
OSC OUT
VT
+B
GND
NC (GND)
ANT
<EZ, K ONLY>
J801 ANTENNA
FM 75Ω (COAXIAL)
LW/MW LOOP
J801 ANTENNA
FM 75Ω
LW/MW LOOP
<V ONLY>
CFAZH-450 (TOK)
AUTO STOP
MONO
FM/AM
IF BO
AM-VSM/SD ADJ
FM VSM
AM SD BW
FM DET
VCC
ST/AM-IFO
TUNE
GND
AM-IF IN
FM-IF REF
AM-IF OUT
FM-IN
BUFFERS
R-O
R-I
L-I
R-OUT
L-OUT
DET IN
FM DET
DET OUT
FM
AM
AGC
S-CURVE
AM RF
REG
AM LO
AM LBO ADJ
Q951 RT1P141C
MW/LW SW
L981 (3/3) AM PACK 2 (TOM)
L981 (2/3) AM PACK 2 (TOM)
L981 (1/3) AM PACK 2 (TOM)
MW TRACKING ADJ
Q947 2SK543 4/5
RF AMP
AM RF AMP
D944 1N4148
D942 MC2838
Q948 CSD1306 E
MW/LW SWITCH
L941 252KHZ ANT LW (CO1)
L942 856KHZ OSC LW (CO1)
LW VT ADJ
Q952 CSD1306 E
OSC SW
TP1 CLK
TP4
TP5
L791 1POLE MPX
✱TP4, 5 DC BALANCE
✱C793 1000P:K, V 220P:EZ
✱R794, 795 3.3K:K, V 6.8K EZ
AM LO
AM RF
REG
D-GND
A-GND
J601 AUX/MD (L/R) LINE OUT
AUX-L
AUX-R
MD-L
MD-R
RO-L
RO-R
VIDEO/AUX IN
MD IN
LINE OUT
CON602
CD-L
CD-R
CD ON
TO 3CD C.B CON5
IC601 BH3810FS
VF/FUNCTION
MD REC MUTE
CD ON
TU ON
SUR
BIAS
BBE1
BBE2
VCC
VM
D602 MTZJ4.3A
D603 MTZJ5.1B
D601 1N4148T
STB
DATA
CLK
PB-SEL
REC-SEL
L-CH
R-CH
Q201 CSD1306E
Q201, 202, 225 MUTE SW
Q202 CSD1306E
Q203~212 Q233~236 POWER AMP
Q213, 214 OVERLOAD DET
Q209 FN1016
Q210 FN1016
Q211 FP1016
Q212 FP1016
TH201 100K
TH202 100K
Q219 2SK2723
Q220 2SK2723
D207 1N5402
D208 1N5402
PR201 10A 60V
PR202 10A 60V
D227 1N4148M
Q223 RT1P144C
Q221 2SC3052 F
Q231 CMBT5551
Q232 RT1N141C
SWITCHING DRIVER
Q219, 220 SWITCHING
D210 MTZJ5.1B
Q222 2SA1235F
Q227 2SC3052F
POWER SW
Q225 2SA1235 F
Q226 2SA1235F
POWER SW
MUTE
D-POWER
J252 PHONES
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω + 16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP: 6Ω
(L)
(R)
Q229 RT1N141C
SWITCHING DRIVER
RY201 QUAZSH-11
Q111, 112 -VFL REG
Q111 KTA1266
Q112 KTA1266
D110 MTZJ36A
D106 1N4003
D107 1N4003
D108 1N4003
D109 1N4003
D120 MTZJ16A
D101 RS403L
RY101 DSA-SS 212DM5
D103 1N4148M
HOLD
D-POWER
Q110 2SC3052
HOLD SW
Q106 2SC3052 F
DC DET
Q108 2SC3052
Q109 2SA1235 F
AC DET
D105 MC2838
D104 MC2836
D102 RS603M
Q107 2SA1235 F
Q102 2SB1370 F
Q114 2SA1235 F
POWER SW
Q105 CSD1489 B
VCC SW
Q101 2SB1370 E
D116 MC2836
D112 MTZJ10C
Q104 2SC3052 F
Q103 KTC3198 GR
Q101~104 CONST VOL REG
WH101
W001
E AC2 C.B
WH001
PR005 10A 60V
PR001 10A 60V
PR002 10A 60V
PR006 10A 60V
PT101 PT-EZ
D AC1 C.B
FC2 TP00351-5
FC1 TP00351-5
F101 1.6A 250
LIVE
NEUTRAL
AC 230V 50HZ
W103
N C.B
SIGNAL:
PB/FM
REC/MW/LW
MIC
MIC

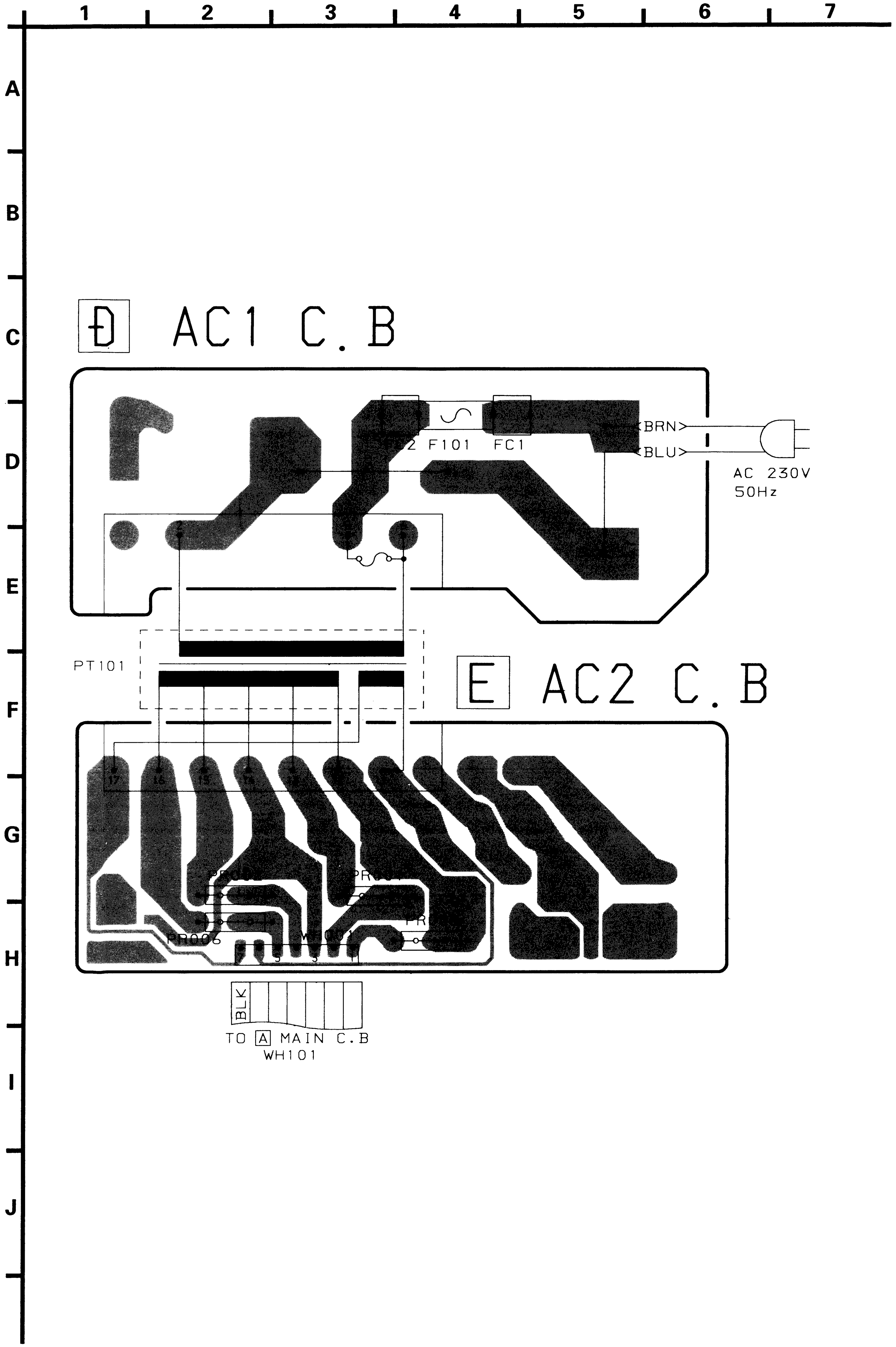
SCHEMATIC DIAGRAM – 2 (FRONT : EZ, K, V)


C KEY C.B
CON301
OPEN CLOSE
DISC CHANGE
DISC 1
DISC 2
DISC 3
FL101
BJ531 GK
DISPLAY
IC380 BA3835S
SPEANA
CON101
TO A MAIN C.B CON601
TU-SIG/MS
RDS-CLK
RDS-DATA
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
MA-STB
MUTE
PLL-CE
LH1
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
A-GND
<EZ ONLY>
TACT SW SKQNAB (N)
D352～354 1N4148
Q301
SCAN SW
TAPE
TUNER
AUX
CD
MD
BBE
T-BASS
FF
REW
PLAY
STOP
PAUSE
REC
DUBB
HALL
LIVE
DISCO
EDIT
REV MODE
DOLBY
DEMO
POWER
MIC-VOL SEL
ECHO-VOL SEL
CLASSIC
POP
ROCK
KC DOWN
VF
PTY
RT
AG
D331～D339
KEY.SCAN
LED201～205
SLR-342VCT31
LED206～215
SLR-56PCT31
LED216～221
SLH-56PCTE7
LED233, 234
LED237, 238
SLH-56PCL
LED235, 236
SLH-56VCL
LED222～229
LED233～238
DECK LIGHT
IC601
MIC AMP
Q601
2SK2158
D601 1N4148
IC601 (1/2) NJM4558 MD
IC601 (2/2) NJM4558 MD
MIC LEVEL AGC
MIC1
MIC2
J601
J602
FB601
EM1BL01 RN1
DSP/ECHO
IC501 BU9262AFS
SELECTOR
CONTROL
FVOL
RAM
PROCESSOR
LPF
DAC
ADC
SERIAL CIRCUIT
CLOCK
VOL
IC401
BH3864F
DINAMIC BASS
FILTER
DIGITAL CONTROL
ALC
BASS
TRE
D501 MTZJ5.6B
L501 220μH

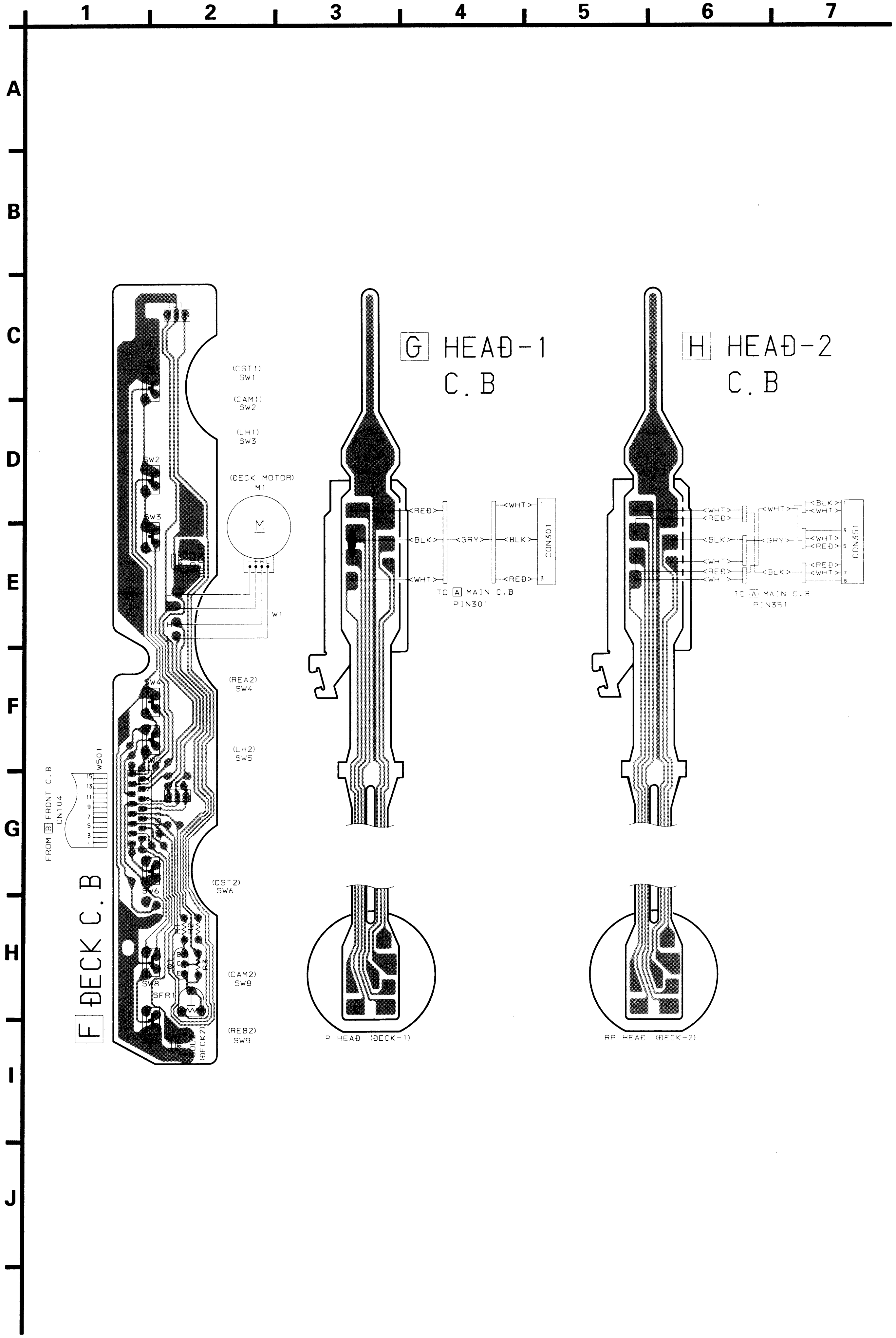

FL101
BJ531 GK
DISPLAY
C128 1000p
R182 1.2k
R183 1.2k
C118 0.047
<EZ ONLY>
R167 10
R118 10k
D103 1N4148
D104 1N4148
D105 1N4148
D101 MC2838
R156 68k
R157 68k
R158 68k
C125 0.1
R140 10k
R141 10k
R142 10k
R143 10k
S14
S15
S16
Q301
SCAN SW
Q301 2SC3052 F
KEY.SCAN
D331~D339
~354 1N4148
R363 4.7k
R362 4.7k
R361 4.7k
BBE S303
T-BASS S342
STOP S317
PAUSE S316
REC S315
DUBB S314
REV MODE S331
DOLBY S330
DEMO S302
POWER S328
D108 MC2836
D109 MTZJ6.2C
D107 MC2838
Q108 RT1N144C
POWER SW
R145 100
Q102 2SC3052F
RESET
R176 100k
Q103 2SA1235 F
Q103 LED SW
R146 18
R147 18
R131 22
R148 22
C103 0.01
D106 1N4148
R168 390k
R172 1k
C122 0.047
C109 1/50
R169 100
R159 33k
MIC
X101 VIB.CER 5.76M
Q101 RN1410
C106 68p
C105 33p
C104 15p
Q101
CLOCK SHIFT SW
IC101
LC866548V-5E54
MICROCOMPUTER
RT-A
RT-B
LED-MD
LED-CD
LED-AUX
LED-TUNER
LED-TAPE
HSP
O-POWER
O-MUTE
O-C-SHIFT
RESET
I-HP-MUTE
I-DISH
VSS1
CF1
CF2
VDD1
HOLD
KEY-1
KEY-2
KEY-3
I-CDSW
I-MIC
I-TU-SIG/MS
I-SPEANA
I-WRQ/RDS-CLK
I-TM-BASE
I-RMC
G9
CLK
DATA
MA-STB
PLL-CE
PRO-CE
LED/LCK
K-SCAN
P1/2092
VDD4
P2/REA
P3/CST1
P4/CAM1
P5/AUTO2
P6/AUTO1
P7/CAM2
P8/REB
P9/CST2
P10/AM9/10K
P11/1WAY
P12/DOLBY
P13/K-CON
P14/D-SURR
P15/DSP
P16/BBE
P17/RDS
P18/FM1
P19/SW
P20/LW
P21/AM-ST
P22/H-DUBB INH
VP
R149 1k
R154 1k
R155 100k
R233 100k
R234 100k
R235 100k
R236 100k
R237 100k
R238 100k
R239 100k
R240 100k
R241 100k
R242 100k
C124 0.1
R249 100k
R250 100k
D113 1N4148
SW101
ROTALY ENCODER
R162 1k
R161 1k
C101 0.022
C102 0.022
IC102
GP1U281X
REMOTE SENSOR
R166 270
C108 10/16
R165 56k
C107 330p
C123 0.1
*D111 1N4148:EZ JUMPER:K, V
CON102
I-DISHSENS
O-DISHREV
O-DISHFWD
O-TRAYOPN
O-TRAYCLS
I-SW (CD)
I-SUBQ
I-DRF (SQCLK)
O-CD-LED
I-WRQ
O-DATA (CD)
O-CDCE
O-CLK (CD)
TO 3CD C.B
R192 47k
R193 47k
R194 47k
R195 47k
R196 4.7k
R197 47k
R198 47k
R199 47k
S18
CON104
CON502
M1
DECK MOTOR
F DECK C.B
IC1, IC2 DN6851
AUTO STOP
Q1 2SA933S
R1 100K
R2 3.9K
R3 8.2K
SFB1 3.3K
MOTOR H-SPEED SW
TAPE SPEED ADJ
Q107 CSB1058 B
MOTOR SW
R186 10k
R188 10k
R190 10k
SOL2
SOL1
Q105 CSA1362 GR
Q106 CSA1362 GR
R189 2.2k
R191 2.2k
Q104 RT1N141C
R187 1k
MOTOR
R181 22k
D110 MC2836
B FRONT C.B
LED214
LED215
LED212
LED213
LED210
LED211
LED208
LED209
LED206
LED207
LED205
LED204
LED203
LED202
LED201
TAPE
TUNER
AUX
CD
MD
LED220
LED219
LED218
LED217
LED216
FWD
PAUSE
REW
FF
LED233
LED235
LED237
R228 470
GEQ/T-BASS/E-VR
C401
DYNAMIC BASS
FILTER
DIGITAL CONTROL
ALC
BASS
TRE
VOL
OUT1
OUT2
C409 0.022
R411 1k
R401 3.9k
R402 3.9k
R403 270k
R404 270k
R405 100
R406 100
C417 0.1
C403 0.047
C404 0.047
SIGNAL:
PB
MIC

NOTE: DIODE NO MARK IS 1N4148SEM

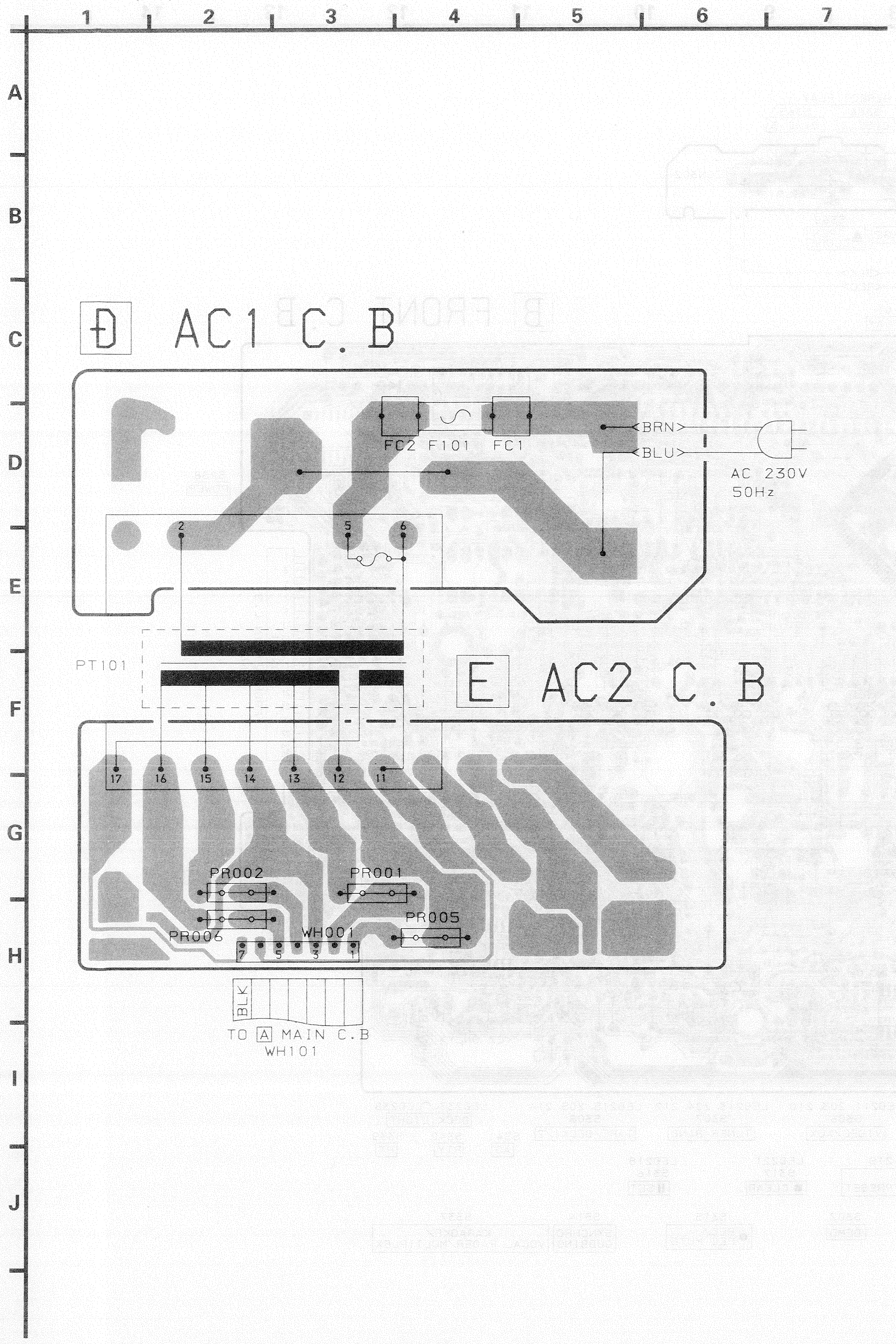
WIRING – 3 (AC)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
D AC1 C.B
F102
F101
FC1
<BRN>
<BLU>
AC 230V
50Hz
PT101
E AC2 C.B
17
16
15
14
13
PR002
PR004
PR006
PR
WH001
5
3
1
BLK
TO A MAIN C.B
WH101

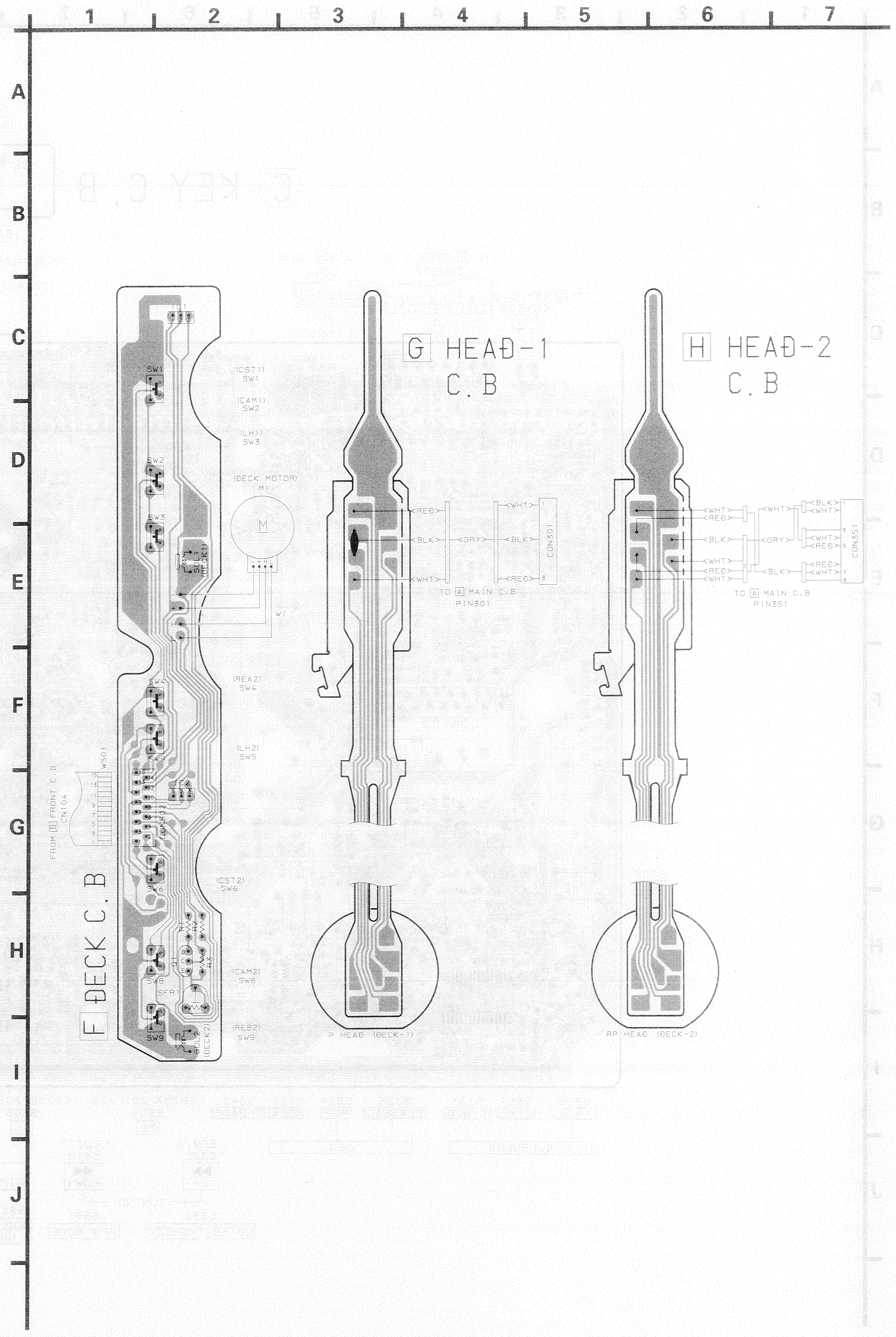
WIRING – 4 (DECK)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
IC1
(CST1)
SW1
(CAM1)
SW2
(LH1)
SW3
(DECK MOTOR)
M1
M
– + H L
W1
SW2
SW3
(REA2)
SW4
SW4
(LH2)
SW5
SW5
FROM B FRONT C.B
CN104
W501
15
13
11
9
7
5
3
1
CON502
(CST2)
SW6
SW6
R1
R2
R3
Q1
B
C
E
(CAM2)
SW8
SW8
SFR1
(REB2)
SW9
SOL1
(DECK2)
F DECK C.B
G HEAD-1
C.B
<RED>
<BLK>
<WHT>
<GRY>
<WHT>
<BLK>
<RED>
1
3
CON301
TO A MAIN C.B
PIN301
P HEAD (DECK-1)
H HEAD-2
C.B
<WHT>
<RED>
<BLK>
<WHT>
<RED>
<WHT>
<WHT>
<GRY>
<BLK>
<BLK>
<WHT>
<WHT>
<RED>
<RED>
<WHT>
1
3
5
7
8
CON351
TO A MAIN C.B
PIN351
RP HEAD (DECK-2)

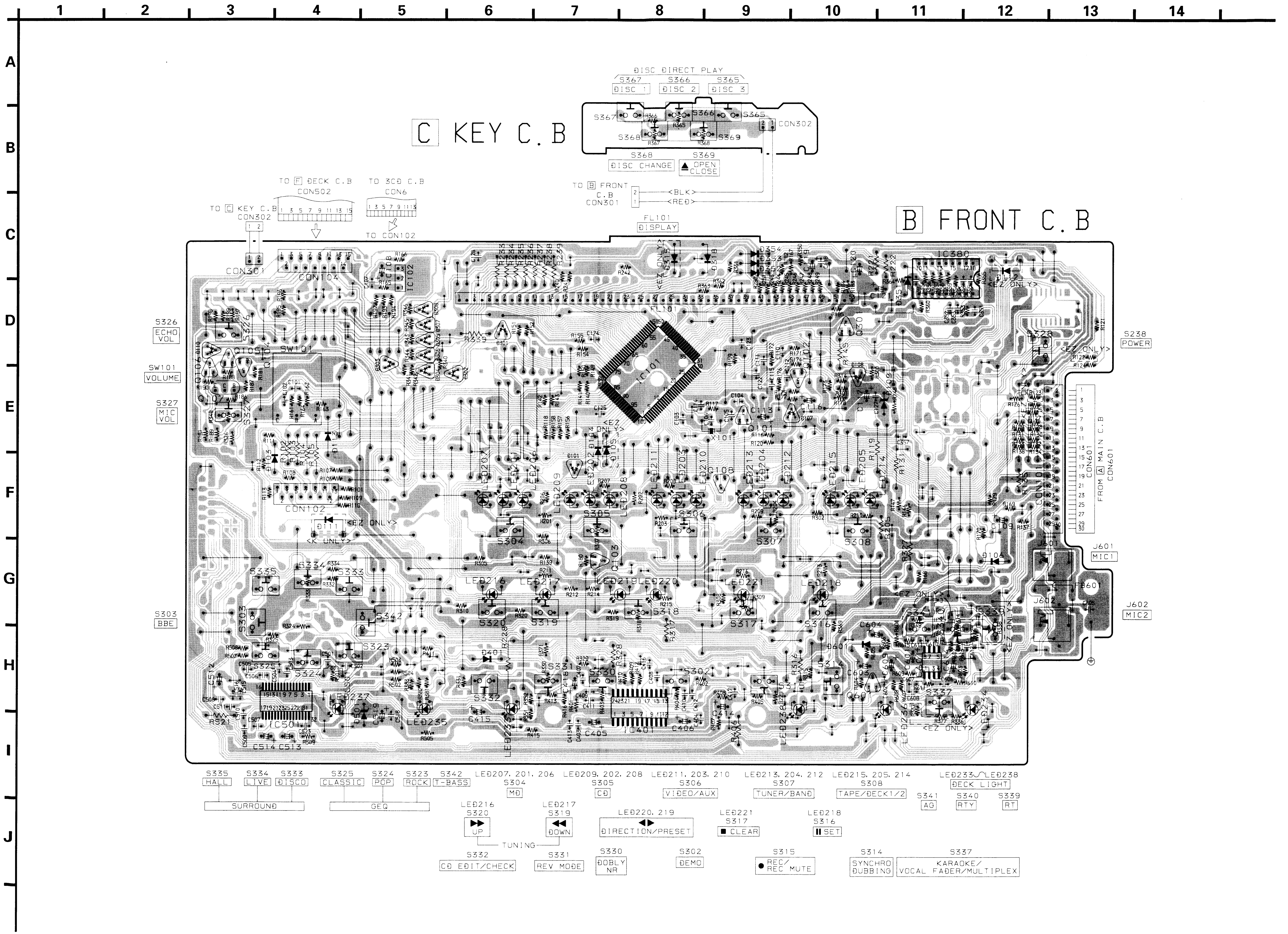
WIRING - 3 (AC)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
D AC1 C.B
FC2
F101
FC1
<BRN>
<BLU>
AC 230V
50Hz
2
5
6
PT101
E AC2 C.B
17
16
15
14
13
12
11
PR002
PR001
PR005
PR006
WH001
7
5
3
1
BLK
TO A MAIN C.B
WH101

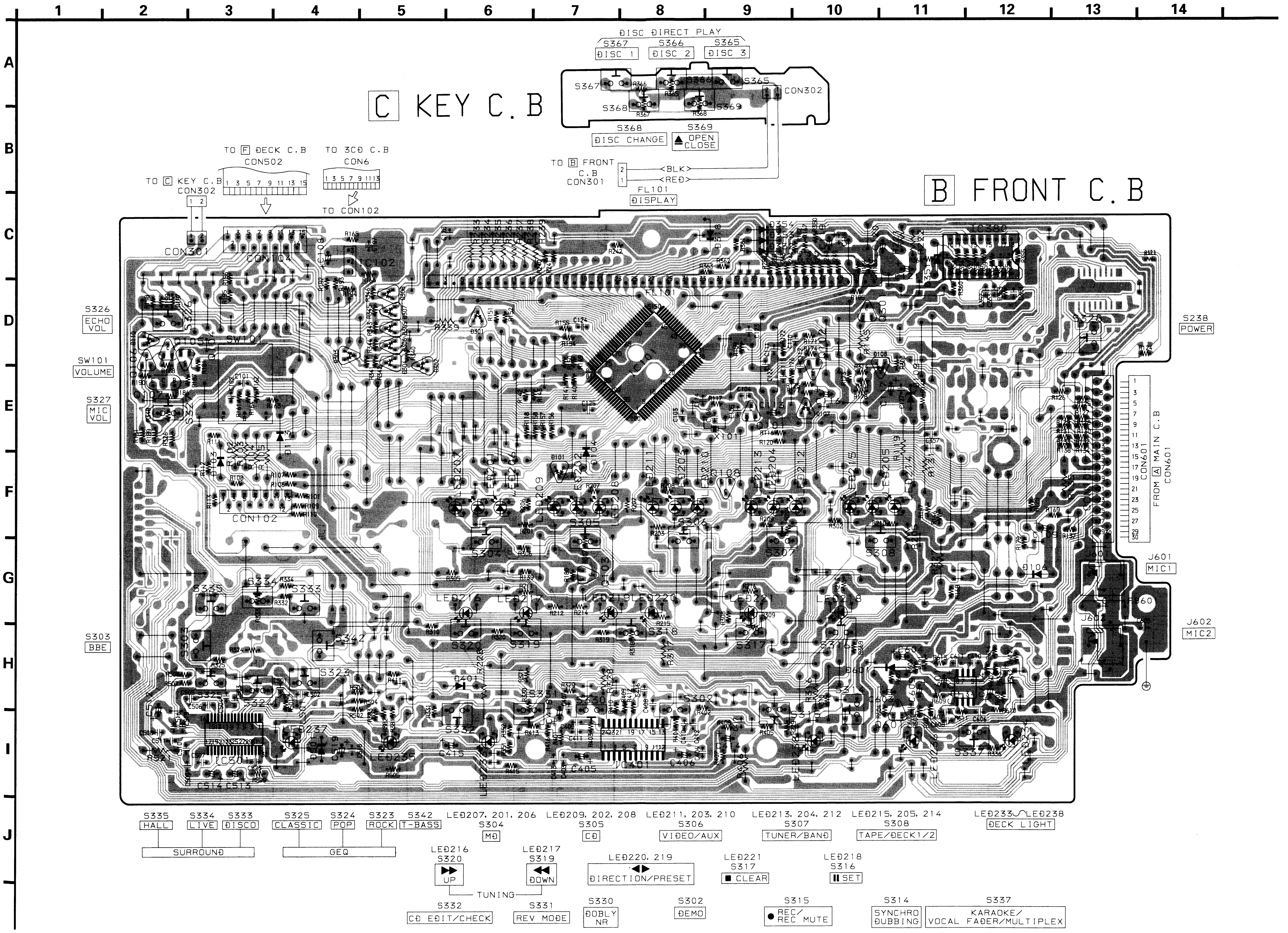
WIRING - 4 (DECK)


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
F DECK C.B
IC1
SW1
(CST1)
SW1
(CAM1)
SW2
(LH1)
SW3
SW2
SW3
(DECK MOTOR)
M1
M
- + H L
SOL1
(DECK1)
W1
(REA2)
SW4
SW4
(LH2)
SW5
SW5
W501
FROM B FRONT C.B
CN104
15
13
11
9
7
5
3
1
IC2
CON502
SW6
(CST2)
SW6
R1
R2
Q1
B
C
E
R3
(CAM2)
SW8
SW8
SFR1
SW9
(REB2)
SW9
SOL2
(DECK2)
G HEAD-1
C.B
<RED>
<BLK>
<WHT>
<GRY>
<WHT>
<BLK>
<RED>
1
3
CON301
TO A MAIN C.B
PIN301
P HEAD (DECK-1)
H HEAD-2
C.B
<WHT>
<RED>
<BLK>
<WHT>
<RED>
<WHT>
<WHT>
<GRY>
<BLK>
<BLK>
<WHT>
<WHT>
<RED>
<RED>
<WHT>
1
3
5
7
8
CON351
TO A MAIN C.B
PIN351
RP HEAD (DECK-2)

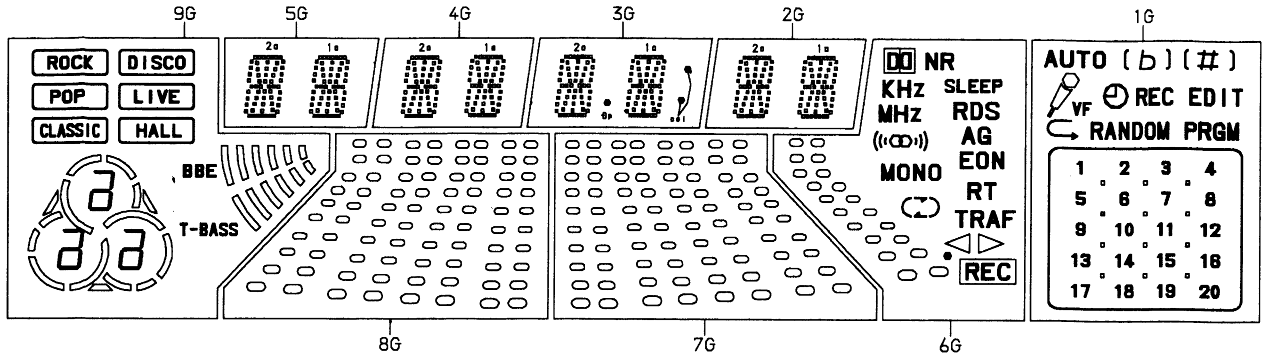
WIRING – 2 (FRONT : EZ, K)

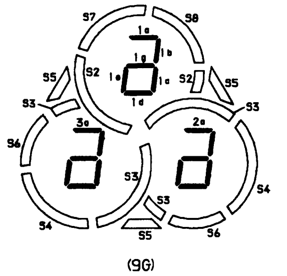

1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I J
C KEY C.B
DISC DIRECT PLAY
S367 DISC 1
S366 DISC 2
S365 DISC 3
CON302
S368 DISC CHANGE
S369 ▲ OPEN/CLOSE
TO B FRONT C.B CON301
<BLK>
<RED>
B FRONT C.B
FL101 DISPLAY
TO C KEY C.B CON302
TO F DECK C.B CON502
TO 3CD C.B CON6
TO CON102
CON301
CON104
CON102
IC101
IC102
IC380
IC401
IC501
<EZ ONLY>
<K ONLY>
S326 ECHO VOL
SW101 VOLUME
S327 MIC VOL
S303 BBE
S238 POWER
FROM A MAIN C.B CON601
CON601
J601 MIC1
J602 MIC2
S335 HALL
S334 LIVE
S333 DISCO
SURROUND
S325 CLASSIC
S324 POP
S323 ROCK
GEQ
S342 T-BASS
LED207, 201, 206 S304 MD
LED209, 202, 208 S305 CD
LED211, 203, 210 S306 VIDEO/AUX
LED213, 204, 212 S307 TUNER/BAND
LED215, 205, 214 S308 TAPE/DECK1/2
LED233∼LED238 DECK LIGHT
S341 AG
S340 RTY
S339 RT
LED216 S320 ▶▶ UP
LED217 S319 ◀◀ DOWN
TUNING
LED220, 219 ◀▶ DIRECTION/PRESET
LED221 S317 ■ CLEAR
LED218 S316 II SET
S332 CD EDIT/CHECK
S331 REV MODE
S330 DOBLY NR
S302 DEMO
S315 ● REC/REC MUTE
S314 SYNCHRO DUBBING
S337 KARAOKE/VOCAL FADER/MULTIPLEX

WIRING – 5 (FRONT : V)

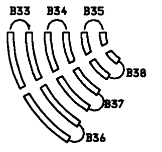

1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
C KEY C.B
DISC DIRECT PLAY
S367 DISC 1
S366 DISC 2
S365 DISC 3
CON302
S368 DISC CHANGE
S369 ▲ OPEN CLOSE
TO B FRONT C.B CON301
<BLK>
<RED>
FL101 DISPLAY
B FRONT C.B
TO F DECK C.B CON502
TO 3CD C.B CON6
TO CON102
TO C KEY C.B CON302
CON301
CON104
CON102
IC102
IC101
IC380
FL101
IC501
IC401
IC601
S326 ECHO VOL
SW101 VOLUME
S327 MIC VOL
S303 BBE
S238 POWER
FROM A MAIN C.B CON601
J601 MIC1
J602 MIC2
S335 HALL
S334 LIVE
S333 DISCO
SURROUND
S325 CLASSIC
S324 POP
S323 ROCK
GEQ
S342 T-BASS
LED207, 201, 206 S304 MD
LED209, 202, 208 S305 CD
LED211, 203, 210 S306 VIDEO/AUX
LED213, 204, 212 S307 TUNER/BAND
LED215, 205, 214 S308 TAPE/DECK1/2
LED233∽LED238 DECK LIGHT
LED216 S320 ▶▶ UP
LED217 S319 ◀◀ DOWN
TUNING
LED220, 219 ◀▶ DIRECTION/PRESET
LED221 S317 ■ CLEAR
LED218 S316 ❚❚ SET
S332 CD EDIT/CHECK
S331 REV MODE
S330 DOBLY NR
S302 DEMO
S315 ● REC/ REC MUTE
S314 SYNCHRO DUBBING
S337 KARAOKE/ VOCAL FADER/MULTIPLEX

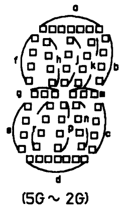
FL GRID ASSIGNMENT & ANODE CONNECTION


9G
5G
4G
3G
2G
1G
8G
7G
6G
ROCK
DISCO
POP
LIVE
CLASSIC
HALL
BBE
T-BASS
NR
KHz
MHz
SLEEP
RDS
AG
EON
MONO
RT
TRAF
REC
AUTO
REC
EDIT
VF
RANDOM
PRGM
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20

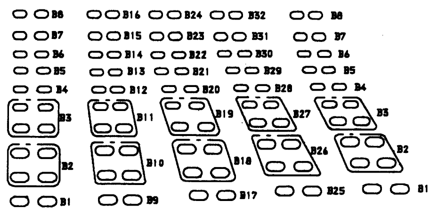

S7
S8
S2
S5
S3
S4
S6
S9
1a
1b
1c
1d
1e
1g
2a
2e
3a
S5
S6

(9G)

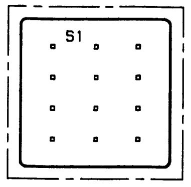

B33
B34
B35
B38
B37
B36



(5G ~ 2G)


B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
B13
B14
B15
B16
B17
B18
B19
B20
B21
B22
B23
B24
B25
B26
B27
B28
B29
B30
B31
B32

(8G, 7G)



(1G)

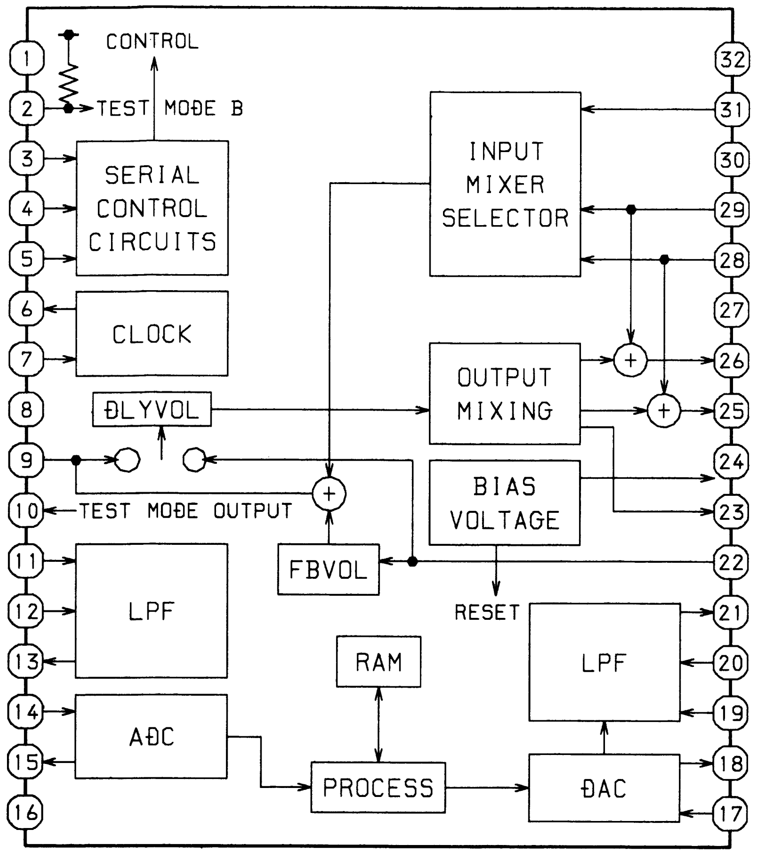
BJ531GK
GRID ASSIGNMENT

	9G	8G, 7G	6G	5G, 4G	3G	2G	1G
P1	S8	B32	▷	-	col	-	**RANDOM**
P2	S2	B24	◁	1d	1d	1d	-
P3	1b	B16	**SLEEP**	1n	1n	1n	**PRGM**
P4	1c	B8	B8	1p	1p	1p	**EDIT**
P5	1e	B31	○	1r	1r	1r	**1**
P6	1a, 1d, 1g	B23	**(REC)**	1e	1e	1e	**2**
P7	2b	B15	**KHz**	1c	1c	1c	**3**
P8	2c	B7	B7	1g	1g	1g	**4**
P9	2e	B30	**MHz**	1m	1m	1m	**5**
P10	2a, 2d, 2g	B22	-	1f	1f	1f	**6**
P11	3b	B14	**DD NR**	1b	1b	1b	**7**
P12	3c	B6	B6	1k	1k	1k	**8**
P13	3e	B29	**RDS**	1j	1j	1j	**9**
P14	3a, 3d, 3g	B21	-	1h	1h	1h	**10**
P15	S3	B13	-	1o	1o	1o	**11**
P16	S5	B5	B5	-	col(上)	-	**12**
P17	S7	B28	-	-	Ðp	-	**13**
P18	S4	B20	-	2d	2d	2d	**14**
P19	S6	B12	-	2n	2n	2n	**15**
P20	(HALL)	B4	B4	2p	2p	2p	**16**
P21	(LIVE)	B27	**AG**	2r	2r	2r	**17**
P22	(ÐISCO)	B19	((ı∞ı))	2e	2e	2e	**18**
P23	(CLASSIC)	B11	**EON**	2c	2c	2c	**19**
P24	(POP)	B3	B3	2g	2g	2g	**20**
P25	(ROCK)	B26	**RT**	2m	2m	2m	**AUTO**
P26	B36	B18	**MONO**	2f	2f	2f	**VF**
P27	B37	B10	**TRAF**	2b	2b	2b	◷
P28	B38	B2	B2	2k	2k	2k	**REC**
P29	B33	B25	)	2j	2j	2j	⊂→
P30	B34	B17	⇄	2h	2h	2h	[(#)]
P31	B35	B9	(	2a	2a	2a	[(b)]
P32	S9 **T-BASS**	B1	B1	-	-	-	S1
P33	S10	-	-	-	-	-	-
P34	**BBE**	-	-	-	-	-	-
P35	-	-	-	-	-	-	b #

BJ531GK
ANOÐE CONNECTION

IC BLOCK DIAGRAM

IC, BU9262AFS


CONTROL
TEST MOÐE B
SERIAL CONTROL CIRCUITS
INPUT MIXER SELECTOR
CLOCK
ÐLYVOL
OUTPUT MIXING
BIAS VOLTAGE
TEST MOÐE OUTPUT
FBVOL
LPF
RESET
RAM
LPF
AÐC
PROCESS
ÐAC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
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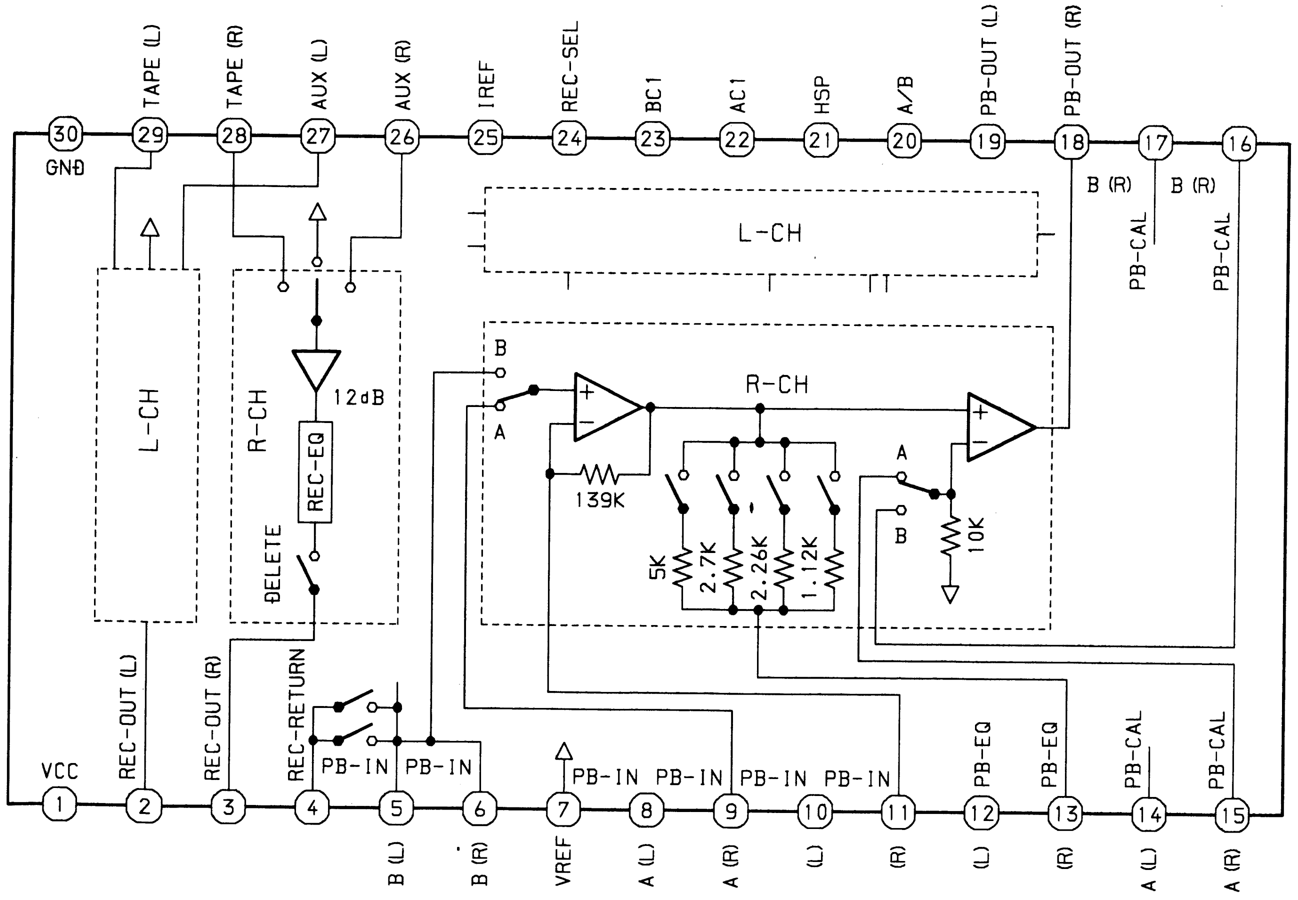
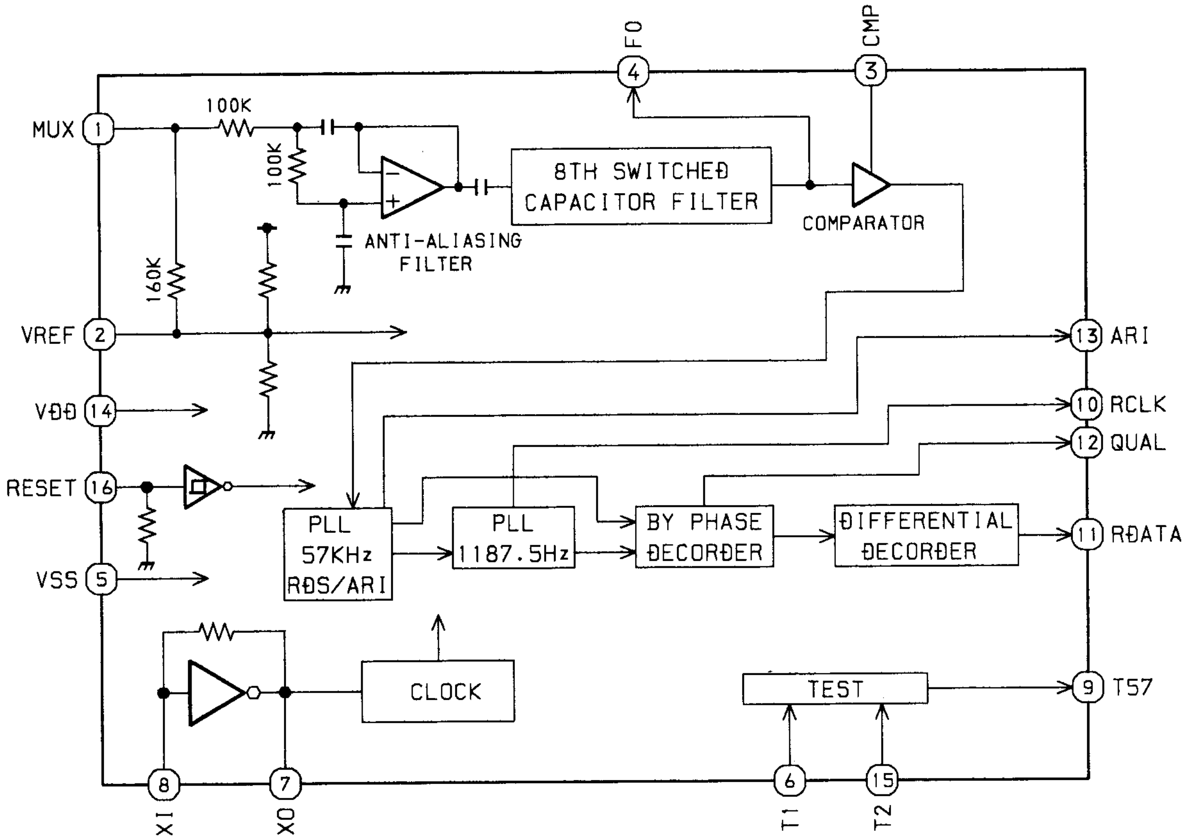
27
28
29
30
31
32

IC, HA12211

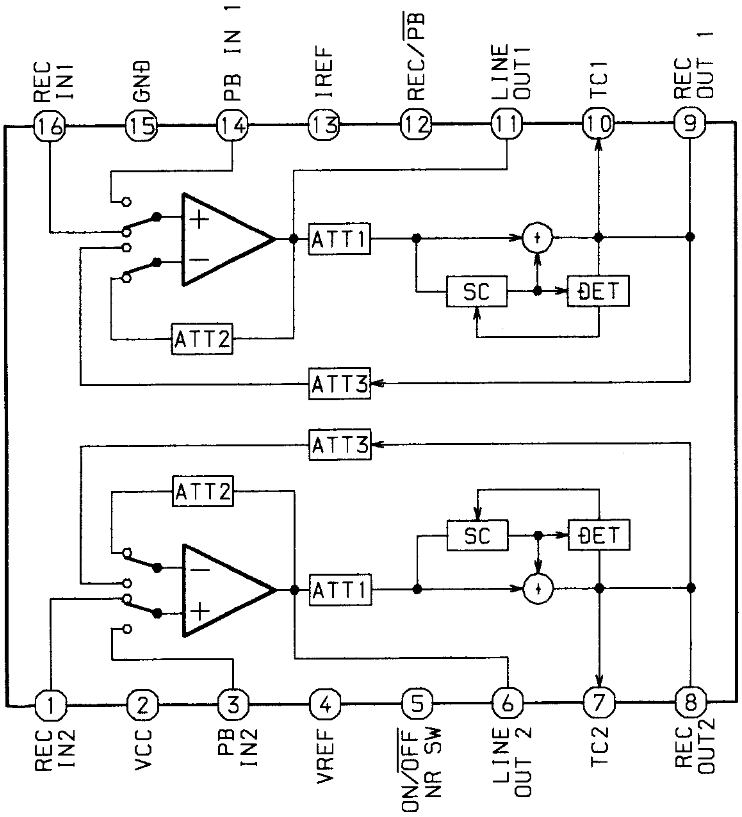

TAPE (L)
TAPE (R)
AUX (L)
AUX (R)
IREF
REC-SEL
BC1
AC1
HSP
A/B
PB-OUT (L)
PB-OUT (R)
GNÐ
B (R)
B (R)
PB-CAL
PB-CAL
L-CH
L-CH
R-CH
12dB
REC-EQ
ÐELETE
R-CH
B
A
139K
5K
2.7K
2.26K
1.12K
A
B
10K
VCC
REC-OUT (L)
REC-OUT (R)
REC-RETURN
PB-IN
PB-IN
PB-IN
PB-IN
PB-IN
PB-IN
PB-EQ
PB-EQ
PB-CAL
PB-CAL
B (L)
B (R)
VREF
A (L)
A (R)
(L)
(R)
(L)
(R)
A (L)
A (R)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

IC, BU1920FS



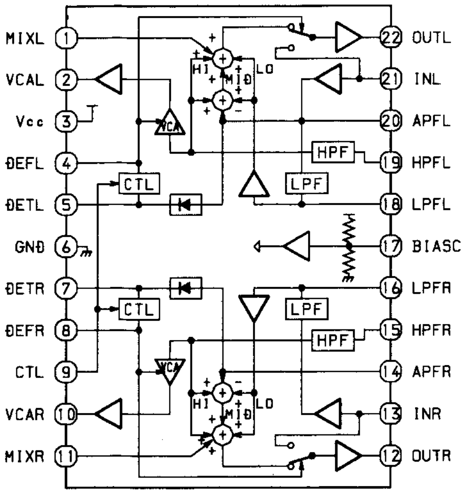
FO
CMP
4
3
MUX 1
100K
100K
8TH SWITCHED CAPACITOR FILTER
COMPARATOR
ANTI-ALIASING FILTER
160K
VREF 2
13 ARI
VDD 14
10 RCLK
12 QUAL
RESET 16
PLL 57KHz RDS/ARI
PLL 1187.5Hz
BY PHASE DECORDER
DIFFERENTIAL DECORDER
11 RDATA
VSS 5
CLOCK
TEST
9 T57
8
7
6
15
XI
XO
T1
T2

IC, CXA1553P

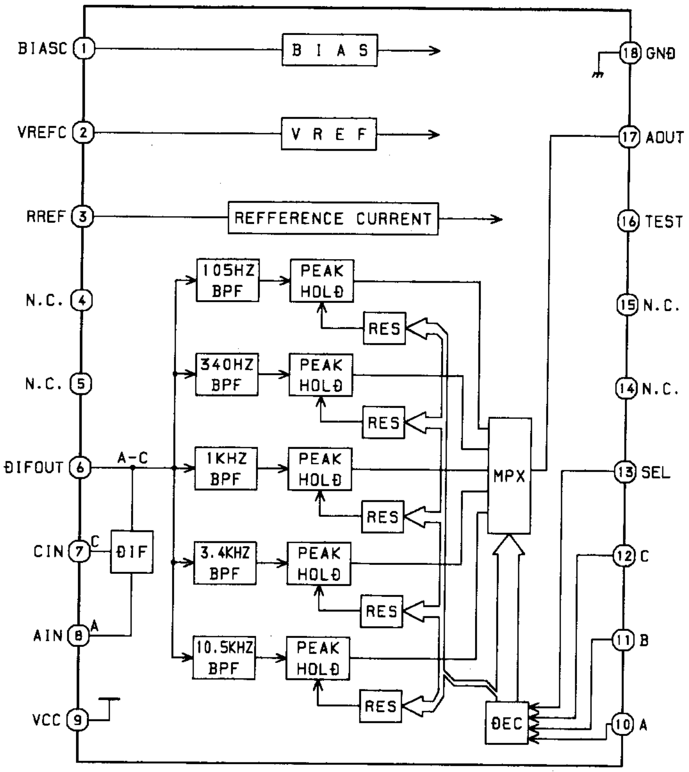


REC IN1
GND
PB IN 1
IREF
REC/PB
LINE OUT1
TC1
REC OUT 1
16
15
14
13
12
11
10
9
ATT1
SC
DET
ATT2
ATT3
ATT3
ATT2
SC
DET
ATT1
1
2
3
4
5
6
7
8
REC IN2
VCC
PB IN2
VREF
ON/OFF NR SW
LINE OUT 2
TC2
REC OUT2

IC, BA3880S


MIXL 1
VCAL 2
Vcc 3
DEFL 4
DETL 5
GND 6
DETR 7
DEFR 8
CTL 9
VCAR 10
MIXR 11
OUTR 12
INR 13
APFR 14
HPFR 15
LPFR 16
BIASC 17
LPFL 18
HPFL 19
APFL 20
INL 21
OUTL 22
VCA
HI
MID
LO
HPF
LPF
CTL

IC, BA3835S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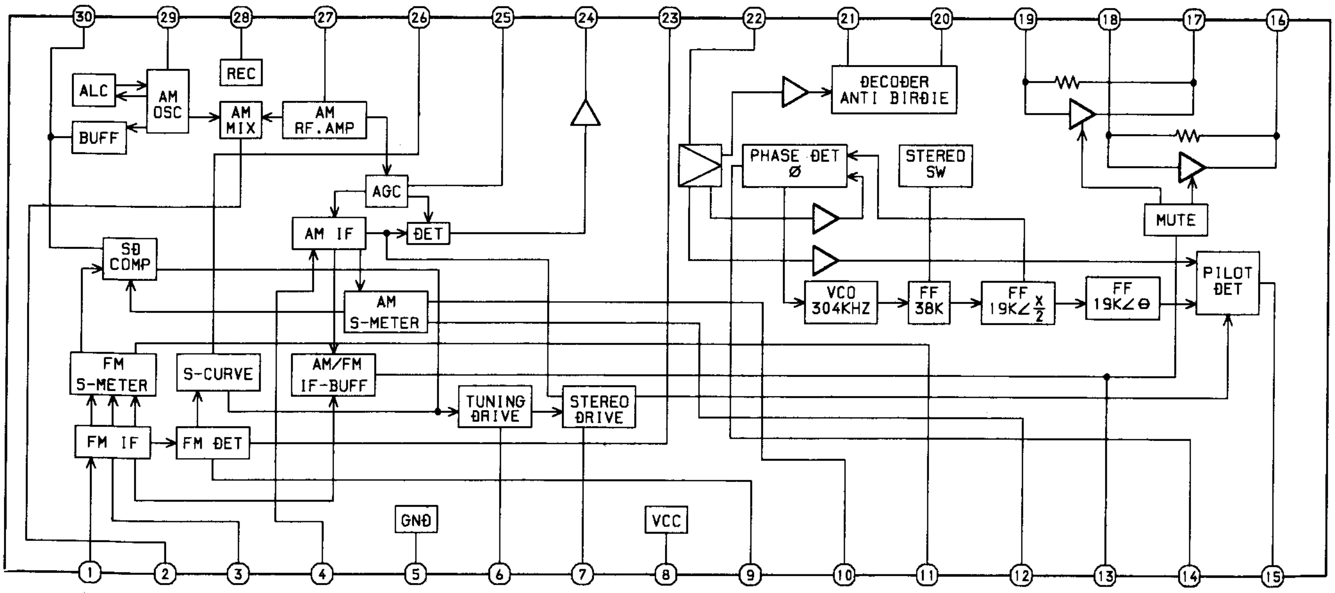
VREFC 2
RREF 3
N.C. 4
N.C. 5
DIFOUT 6
CIN 7
AIN 8
VCC 9
A 10
B 11
C 12
SEL 13
N.C. 14
N.C. 15
TEST 16
AOUT 17
GND 18
B I A S
V R E F
REFFERENCE CURRENT
105HZ BPF
340HZ BPF
1KHZ BPF
3.4KHZ BPF
10.5KHZ BPF
PEAK HOLD
RES
MPX
DEC
DIF
A-C
C
A

IC, LA1837


ALC
BUFF
AM OSC
REC
AM MIX
AM RF.AMP
AGC
AM IF
DET
SD COMP
AM S-METER
FM S-METER
S-CURVE
AM/FM IF-BUFF
TUNING DRIVE
STEREO DRIVE
FM IF
FM DET
GND
VCC
DECODER ANTI BIRDIE
PHASE DET Ø
STEREO SW
MUTE
PILOT DET
VCO 304KHZ
FF 38K
FF 19K∠x/2
FF 19K∠θ
1
2
3
4
5
6
7
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11
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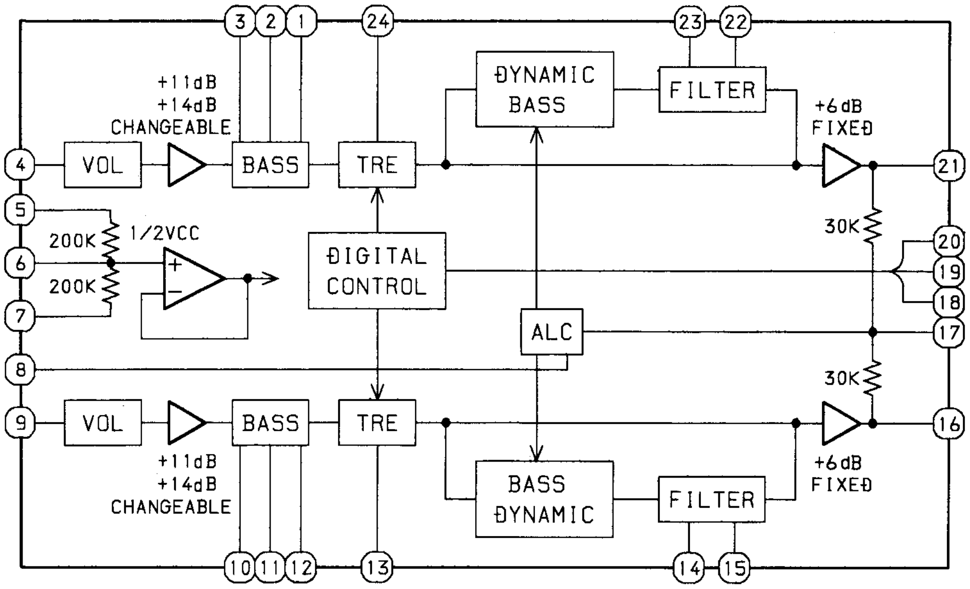
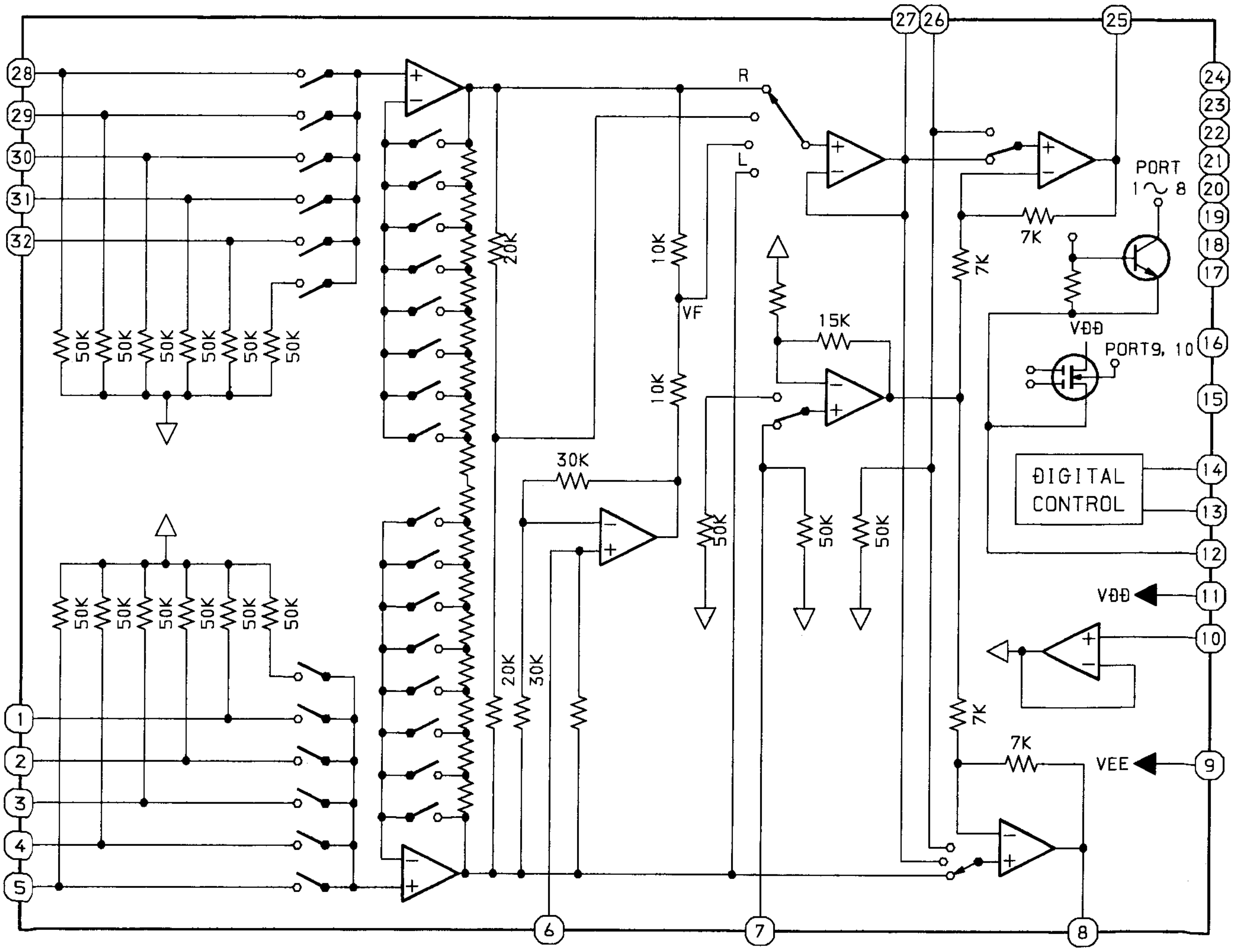
IC, BH3864F


3
2
1
24
23
22
+11dB
+14dB
CHANGEABLE
DYNAMIC BASS
FILTER
+6dB FIXED
4
VOL
BASS
TRE
21
5
200K
1/2VCC
6
200K
7
DIGITAL CONTROL
30K
20
19
18
ALC
17
8
30K
9
VOL
BASS
TRE
16
+11dB
+14dB
CHANGEABLE
BASS DYNAMIC
FILTER
+6dB FIXED
10
11
12
13
14
15

IC, BH3810FS


27
26
25
28
R
24
29
23
30
22
L
21
31
PORT 1～8
20
32
20K
10K
7K
19
7K
18
VF
17
50K
50K
50K
50K
50K
50K
50K
15K
VDD
16
PORT9, 10
10K
15
DIGITAL CONTROL
14
30K
13
50K
50K
50K
12
50K
50K
50K
50K
50K
50K
50K
VDD
11
10
20K
30K
1
7K
2
7K
VEE
9
3
4
5
6
7
8

IC DESCRIPTION

IC, LC866548V-5E54

Pin No.	Pin Name	I/O	Description
1	RT-A	I	Rotary encoder A input.
2	RT-B	I	Rotary encoder B input.
3	$\overline{\text{LED-MD}}$	O	"MD" LED $\overline{\text{ON}}$/OFF output.
4	$\overline{\text{LED-CD}}$	O	"CD " LED $\overline{\text{ON}}$/OFF output.
5	$\overline{\text{LED-AUX}}$	O	"AUX" LED $\overline{\text{ON}}$/OFF output.
6	$\overline{\text{LED-TUNER}}$	O	"TUNER" LED $\overline{\text{ON}}$/OFF output.
7	$\overline{\text{LED-TAPE}}$	O	"TAPE" LED $\overline{\text{ON}}$/OFF output.
8	HSP	O	Tape deck motor high speed ON/$\overline{\text{OFF}}$ output.
9	$\overline{\text{O-POWER}}$	O	System power supply $\overline{\text{ON}}$/OFF output.
10	O-MUTE	O	System mute ON/$\overline{\text{OFF}}$ output.
11	$\overline{\text{O-CLK-SHIFT}}$	O	U-COM clock shift output.
12	$\overline{\text{RESET}}$	I	Reset input.
13	$\overline{\text{I-HP-MUTE}}$	–	Not connected.
14	I-DISH	I	CD turntable photo sensor A/D converter input.
15	VSS 1	–	GND.
16	CF 1	–	5.76MHz oscillator circuit.
17	CF 2	–	
18	VDD 1	–	Power supply input.
19	$\overline{\text{HOLD}}$	I	Power failure detected input "1" to stop clock and main memory.
20	KEY-1	I	KEY input.(A/D)
21	KEY-2	I	
22	KEY-3	I	
23	I-CD SW	I	CD mechanical switch A/D converter input.
24	I-MIC	I	Microphone input for AUTO VF display.
25	I-TU-SIG/$\overline{\text{MS}}$	I	Tuner signal and deck music sensor signal input.
26	I-SPEANA	I	A/D input for spectrum analyzer display.
27	I-WRQ/RDS-CLK	I	CD WRQ input . TUNER RDS CLOCK input.
28	I-TM-BASE	I	REFERENCE CLOCK input for timer watch.
29	I-$\overline{\text{RMC}}$	I	System remote control signal input.
30~37	G9~G2	O	FL grid output G2~G9.
38~43	P32~P27	O	FL segment output P27~P32.
44	G1	O	FL grid output G1.
45	P26	–	FL segment output P26.
46	VDD3	–	Power supply input.
47	SPEANA-A/P25	O	Spectrum analyzer band switching output /FL segment P25 output.
48	SPEANA-B/P24	O	Spectrum analyzer band switching output /FL segment P24 output.
49	SPEANA-C/P23	O	Spectrum analyzer band switching output /FL segment P23 output.
50	P22/H-DUBB INH	I /O	FL segment P22 output / high dubbing inhibit input to diode.
51	VP	–	Power supply input for FL display.
52	P21/AM-ST	I /O	FL segment P21 output / AM stereo input to diode.
53	P20/LW	I/O	FL segment P20 output / LW mode data input to diode.
54	P19/SW	I/O	FL segment P19 output / SW mode data input to diode.

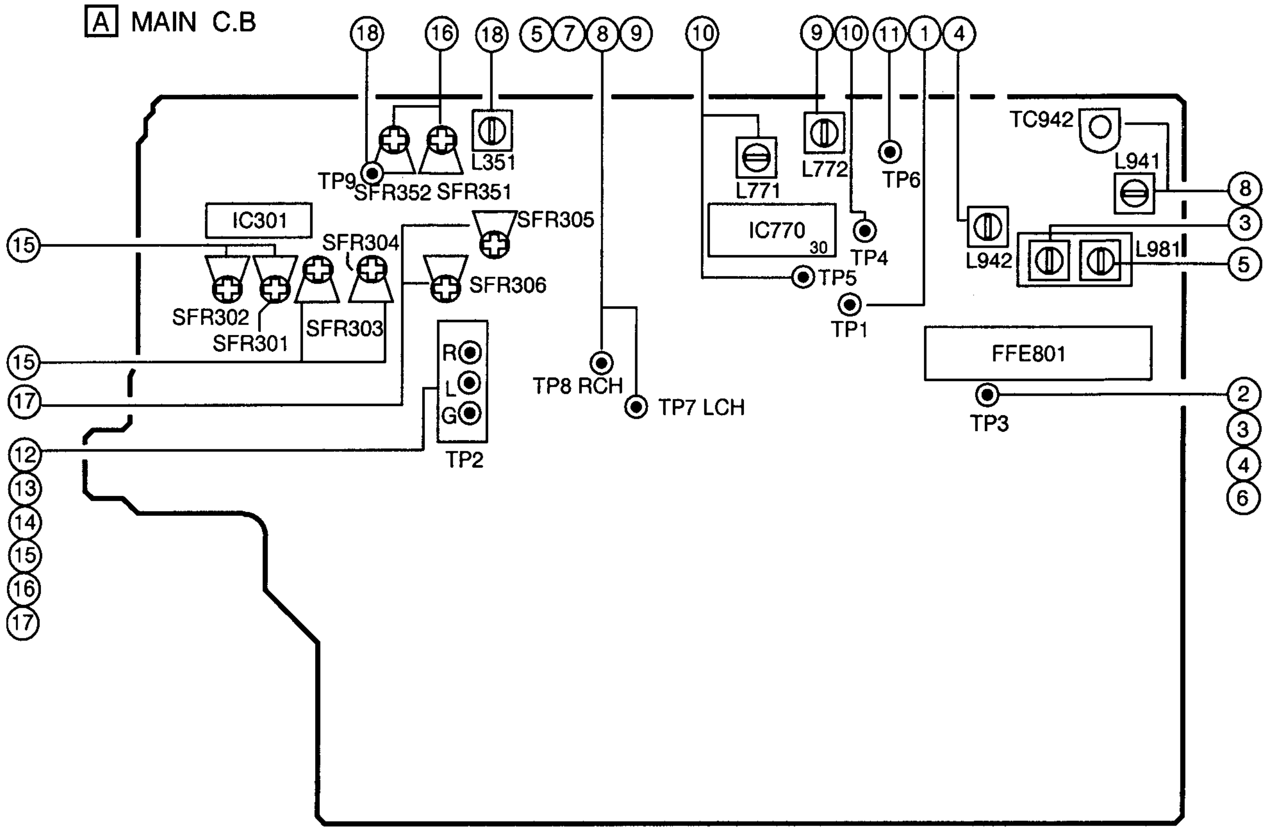
Pin No.	Pin Name	I/O	Description
55	P18/FM 1	I/O	FL segment P18 output / FM1 (OIRT) data input to diode.
56	P17/RDS	I/O	FL segment P17 output / RDS data input to diode.
57	P16/BBE	I/O	FL segment P16 output / BBE data input to diode.
58	P15/DSP	I/O	FL segment P15 output / DSP data input to diode.
59	P14/D-SURR	I/O	FL segment P14 output / DOLBY-SURR data input to diode.
60	P13/K-CON	I/O	FL segment P13 output / K-CON data input to diode.
61	P12/DOLBY	I/O	FL segment P12 output / DOLBY data input to diode.
62	P11/WAY	I/O	FL segment P11 output / DECK/WAY MECHA data input to diode.
63	P10/AM-9K/10K	I/O	FL segment P10 output / INITIAL AM 10 kHz step data input to diode.
64	P9/CST 2	I/O	FL segment P9 output / DECK2 cassette detect switch data input.
65	P8/REB	I/O	FL segment P8 output / DECK2 side-B record OK switch data input.
66	P7/CAM 2	I/O	FL segment P7 output / DECK2 CAM switch data input.
67	P6/AUTO 1	I/O	FL segment P6 output / DECK1 AUTO stop signal input.
68	P5/AUTO 2	I/O	FL segment P5 output / DECK2 AUTO stop signal input.
69	P4/CAM 1	I/O	FL segment P4 output / DECK1 CAM switch data input.
70	P3/CST 1	I/O	FL segment P3 output / DECK1 cassette detect switch data input.
71	P2/REA	I/O	FL segment P2 output / DECK2 side A record OK switch data input.
72	VDD 4	–	Power supply input.
73	P1/2092	I/O	FL segment P1 output / SHIFT resistor IC 2092 data input to diode.
74	K-SCAN	O	Switch SCAN timing output.
75	LED/LCK	O	Latch clock output for front shift resistor.
76	PRO-CE	O	PRO LOGIC IC chip enable output.(Not used.)
77	PLL-CE	O	PLL IC chip enable output.
78	MA-STB	O	Latch strobe output for Main C.B.
79	DATA	O	DATA output for Main, Front C.B.
80	CLK	O	CLOCK output for Main,Front C.B.
81	DISH-RVS	O	CD turntable reverse rotation output.
82	DISH-FWD	O	CD turntable forward rotation output.
83	TRAY-OPEN	O	CD TRAY OPEN data output.
84	TRAY-CLOSE	O	CD TRAY CLOSE data output.
85	LED ▶▶	O	▶▶ LED ON/OFF output.
86	LED ◀◀	O	◀◀ LED ON/OFF output.
87	LED ▶	O	▶ LED ON/OFF output.
88	LED ◀	O	◀ LED ON/OFF output.
89	VSS 2	–	GND.
90	VDD 2	–	Power supply input.
91	LED ■	O	■ LED ON/OFF output.
92	LED II	O	II LED ON/OFF output.
93	SOL 1	O	DECK 1 Solenoid output.
94	SOL 2	O	DECK 2 Solenoid output.
95	O-MOTOR	O	DECK MOTOR ON/OFF output.
96	I-IFC/I-SUB Q	I	Tune IF count serial data input /CD SUB Q data input.

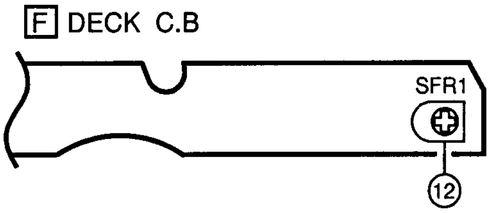
Pin No.	Pin Name	I/O	Description
97	I-$\overline{\text{STEREO}}$/O-SQCLK	I/O	Tuner stereo detected input/CD SQ CLOCK output.
98	I-RDS-DATA/O-DATA	I/O	RDS data input/CD data output.
99	O-CDCE	O	CD CE output.
100	O-CDCLK	O	CD CLOCK output.

IC, LC72131

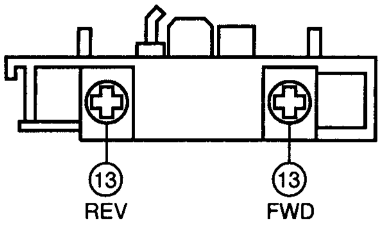
<table>
<tr><th>Pin No.</th><th>Pin Name</th><th>I/O</th><th>Description</th></tr>
<tr><td>1</td><td>XIN</td><td rowspan="2">I/O</td><td rowspan="2">A crystal oscillator (7.2MHz) is connected between these pins.</td></tr>
<tr><td>22</td><td>XOUT</td></tr>
<tr><td>2</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>3</td><td>CE</td><td>I</td><td>To enable the IC. Active "H".</td></tr>
<tr><td>4</td><td>DI</td><td>I</td><td>Digital data input from CPU (LC866548V-5E54) when relevant key is operated. Active "H".</td></tr>
<tr><td>5</td><td>CL</td><td>I</td><td>To clock in the data DI.</td></tr>
<tr><td>6</td><td>DO</td><td>O</td><td>Digital data output to CPU (LC866548V-5E54).</td></tr>
<tr><td>7</td><td>T-BASE</td><td>O</td><td>Outputs a reference clock signal (8Hz) for the clock.</td></tr>
<tr><td>8</td><td>$\overline{\text{MONO}}$ / BEAT</td><td>O</td><td>Outputs "H" when MONO / BEAT is switched.</td></tr>
<tr><td>9</td><td>$\overline{\text{FM}}$ /SW</td><td>O</td><td>Output "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>H</td><td>L</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td><td>L</td></tr>
</table></td></tr>
<tr><td>10</td><td>$\overline{\text{MW}}$/SW</td><td>O</td><td>Outputs "L" or "H" as follows:
<table>
<tr><th colspan="2">2 BAND</th><th colspan="3">3 BAND</th><th colspan="3">3 BAND</th></tr>
<tr><td>AM</td><td>FM</td><td>LW</td><td>MW</td><td>FM</td><td>MW</td><td>SW</td><td>FM</td></tr>
<tr><td>L</td><td>L</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>11</td><td>IF-MUTE</td><td>O</td><td>To control internal counter.</td></tr>
<tr><td>12</td><td>IF-IN</td><td>I</td><td>General purpose counter input.</td></tr>
<tr><td>13</td><td>$\overline{\text{TUNE}}$</td><td>I</td><td>Receives "L" when station is tuned.</td></tr>
<tr><td>14</td><td>NC</td><td>–</td><td>Not used.</td></tr>
<tr><td>15</td><td>AM-IN</td><td>I</td><td>Receives the AM local oscillator frequency signal.</td></tr>
<tr><td>16</td><td>FM-IN</td><td>I</td><td>Receives the FM local oscillator frequency signal.</td></tr>
<tr><td>17</td><td>VDD</td><td>–</td><td>Supply power to IC (+5V).</td></tr>
<tr><td>18</td><td>PD</td><td>O</td><td>PLL charge pump output.</td></tr>
<tr><td>19</td><td>A-IN</td><td>I</td><td rowspan="2">The MOS transistor for PLL active low pass filter.</td></tr>
<tr><td>20</td><td>A-OUT</td><td>O</td></tr>
<tr><td>21</td><td>VSS</td><td>–</td><td>Ground.</td></tr>
</table>

ADJUSTMENT <TUNER / DECK>


A MAIN C.B
⑱ ⑯ ⑱ ⑤⑦⑧⑨ ⑩ ⑨⑩⑪①④
TP9
SFR352
SFR351
L351
IC301
SFR304
SFR305
SFR306
SFR302
SFR301
SFR303
R
L
G
TP2
TP8 RCH
TP7 LCH
L771
L772
TP6
IC770
30
TP4
TP5
TP1
TC942
L941
L942
L981
FFE801
TP3
⑮ ⑮ ⑰ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰
⑧ ③ ⑤ ② ③ ④ ⑥


F DECK C.B
SFR1
⑫

DECK–1 P, DECK–2 R / P / E HEAD



< TUNER SECTION >

1. Clock Check
   Settings : • Test point : TP1
   Method : Set to MW 1602kHz and check that the test point is 2052kHz ± 0.045kHz.

2. MW VT Check
   Settings : • Test point : TP3 (VT)
   Method : Set to MW 1602kHz and check that the test point is 7.5V ± 1.0V.

3. MW VT Adjustment
   Settings : • Test point : TP3 (VT)
   • Adjustment location : L981
   Method : Set to MW 531kHz and adjust L981 so that the test point becomes 1.5V ± 0.05V.

4. LW VT Adjustment
   Settings : • Test point : TP3 (VT)
   • Adjustment location : L942
   Method : Set to LW 144kHz and adjust L942 so that the test point becomes 1.3V ± 0.05V.

5. MW Tracking Adjustment
   Settings : • Test point : TP7, TP8
   • Adjustment location :
   L981 .... 999kHz
   Method : Set to MW 999kHz and adjust L981 so that the test point becomes maximum.

6. FM VT Check
   Settings : • Test point : TP3 (VT)
   Method : • Set to FM 108.0MHz, 87.5MHz and check that the test point is less than 8.5V (108.0MHz),more than 1.5V (87.5MHz).[EZ,K]
   • Set to FM 108.0MHz, 65MHz and check that the test point is less than 9.5V (108.0MHz),more than 2.8V (65MHz).[V]

7. FM Tracking Check

Settings : • Test point : TP7, TP8
• Input level : adjustable

Method : • Set to FM 98.0MHz and check that the test point is 6 ± 6dB.[EZ,K]
• Set to FM 98.0MHz/70MHz and check that the test point is 2 ± 6dB (98.0MHz),6 ± 5dB (70MHz).[V]

8. LW Tracking Adjustment

Settings : • Test point : TP7, TP8
• Input level : adjustable
• Adjustment location :
L941 .... 144kHz
TC942 .... 290kHz

Method : Set up TC942 to center before adjustment.
The level at 144kHz is adjust to MAX by L941.
Then the level at 290kHz is adjust to MAX by TC942.

9. MW IF Adjustment

Settings : • Test point : TP7, TP8
• Input level : adjustable
• Adjustment location : L772

Method : Set to MW 999 kHz and adjust L772 so that the test point becomes maximum.

10. DC Balance / Mono Distortion Adjustment

Settings : • Test point : TP4, TP5
• Adjustment location : L771
• Input level : 54dB

Method : Set to FM 98.0MHz and adjust L771 so that the voltage between TP4 and TP5 becomes 0V ± 0.04V.
Next, check that the distortion is less than 1.3%

11. Auto Stop Level Check

Settings : • Test point : TP6
• Input level : adjustable

Method : Set to FM 98.0 MHz and check that the voltage low about 0.1V. After that voltage high about 7.0V out by 2dB down.

MW

Settings : • Input level : adjustable

Method : Check auto stop at MW 999kHz and the level is 35 ~ 60dB.

FM

Settings : • Input level : adjustable

Method : Check auto stop at FM 98.0MHz and the level is 25dB ± 10dB.

< DECK SECTION >

12. Tape Speed Adjustment

Settings : • Test tape : TTA-100
• Test point : TP2
• Adjustment location : SFR1

Method : Play back the test tape and adjust SFR1 so that the frequency counter reads 3000Hz ± 5Hz.

13. Head Azimuth Adjustment (DECK 1, DECK 2)

Settings : • Test tape : TTA-300
• Test point : TP2
• Adjustment location : Head azimuth adjustment screw

Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum.
Next, perform on each FWD PLAY and REV PLAY mode.

14. PB Frequency Response Check (DECK 1, DECK 2)

Settings : • Test tape : TTA-300
• Test point : TP2

Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output ratio of the 10kHz signal with respect to that of the 315Hz signal is within 2dB.

15. PB Sensitivity Adjustment (DECK 1, DECK 2)

Settings : • Test tape : TTA-200
• Test point : TP2
• Adjustment location :
SFR301 (DECK 1, Lch)
SFR302 (DECK 1, Rch)
SFR303 (DECK 2, Lch)
SFR304 (DECK 2, Rch)

Method : Play back the test tape and adjust SFRs so that the output level of the test point becomes 245 mV.

16. REC/PB Frequency Response Adjustment

Settings : • Test tape : TTA-602
• Test point : TP2
• Input signal : 1kHz / 10kHz (LINE IN)
• Adjustment location : SFR351 (Lch)
SFR352 (Rch)

Method : Apply a 1kHz signal and REC mode.
Then adjust OSC attenuator so that the output level at the test point becomes 170mV. Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output of the 10kHz signals becomes 0dB ± 0.5dB with respect to that of the 1kHz signal.

17. REC/PB Sensitivity adjustment

Settings : • Test tape : TTA-602
• Test point : TP2
• Input signal : 1kHz (LINE IN)
• Adjustment location : SFR305 (Lch)
SFR306 (Rch)

Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP10 becomes 17mV. Record and play back the 1kHz signals and adjust the SFRs so that the output is 17mV ± 0.5dB.

18. Bias OSC Frequency Adjustment

Settings : • Test point : TP9
• Adjustment location : L351

Method : Set to the REC mode. Adjust L351 so that the frequency counter of the test point is 85kHz ± 1kHz.

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity : 4dB ± 6dB (V)
6dB ± 6dB (EZ,K)
[at 87.5 / 98.0MHz/ 108.0MHz]
6dB ± 6dB (V)
[at 65.0 / 70.0MHz/ 74.0MHz]

S/N 46dB<EZ>,50dB<K,V>
Quieting sensitivity : STEREO
30dB ± 6dB (V)
34dB ± 5dB (EZ,K)
[at 87.5 / 98.0 / 108.0MHz]
33dB ± 6dB (V)
[at 65.0 / 70.0 / 74.0MHz]

Signal to noise ratio : STEREO
More than 59dB (EZ,K)
[at 98.0MHz]
MONO
More than 65dB (V)
More than 60dB (EZ,K)
[at 98.0MHz]
Distortion : STEREO
Less than 2%
[at 98.0MHz]
Stereo separation : More than 22dB
[at 98.0MHz]
Intermediate frequency : 10.7MHz

<MW SECTION>

Sensitivity : 55dB ± 5dB
(S/N 20 dB) [at 603kHz]
53dB ± 5dB
[at 999 / 1404kHz]
Signal to noise ratio : STEREO
More than 34dB
[at 999 kHz]
Distortion : Less than 1.5%
[at 999kHz]
Stereo separation : More than 12dB
[at 999 kHz]
Intermediate frequency : 450kHz

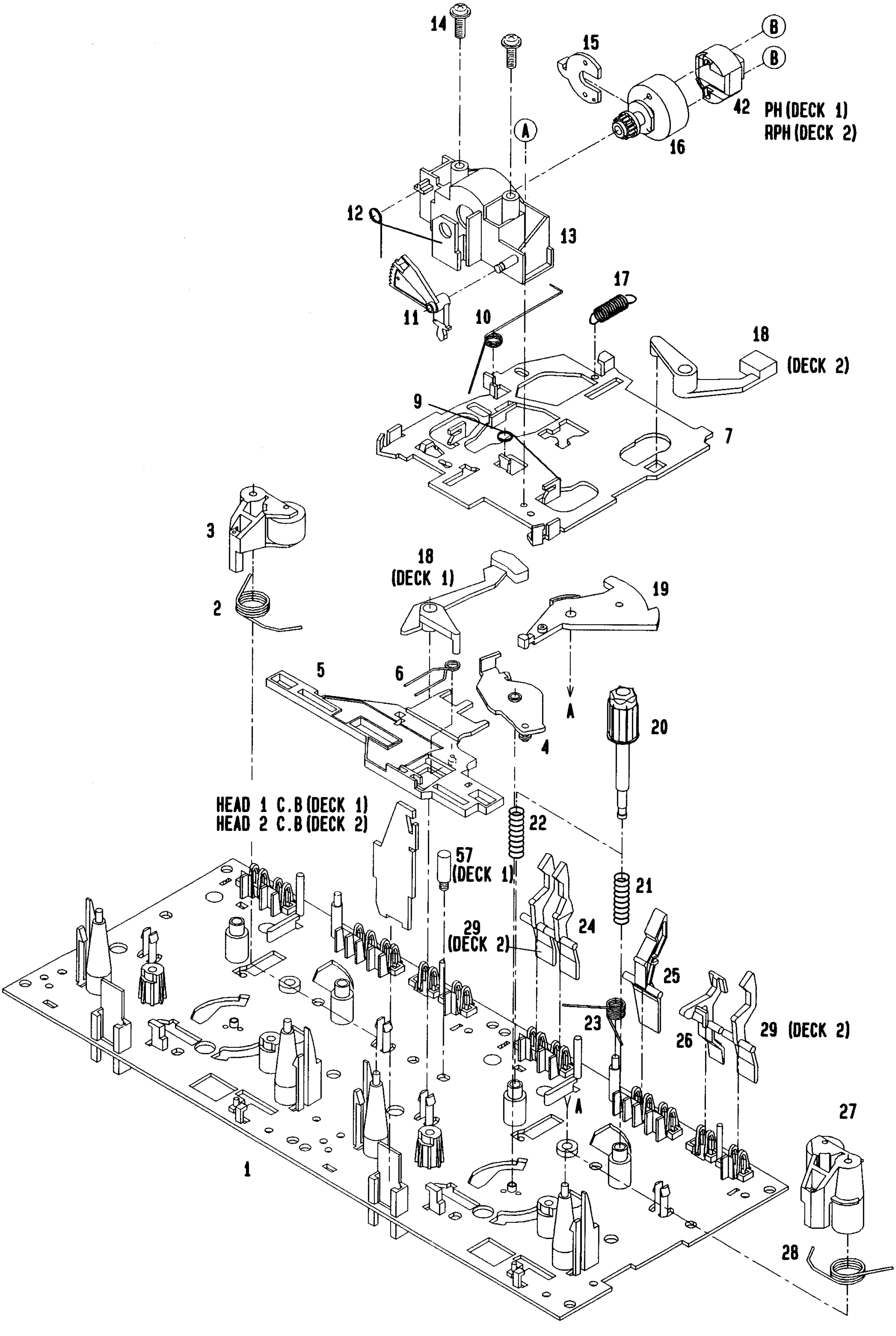
<LW SECTION>

Sensitivity : 66dB ± 5dB (144kHz)
(S/N 20dB) 63dB ± 5dB (198/290kHz)
Distortion : Less than 1.5% (198kHz)
Intermediate frequency : 450kHz

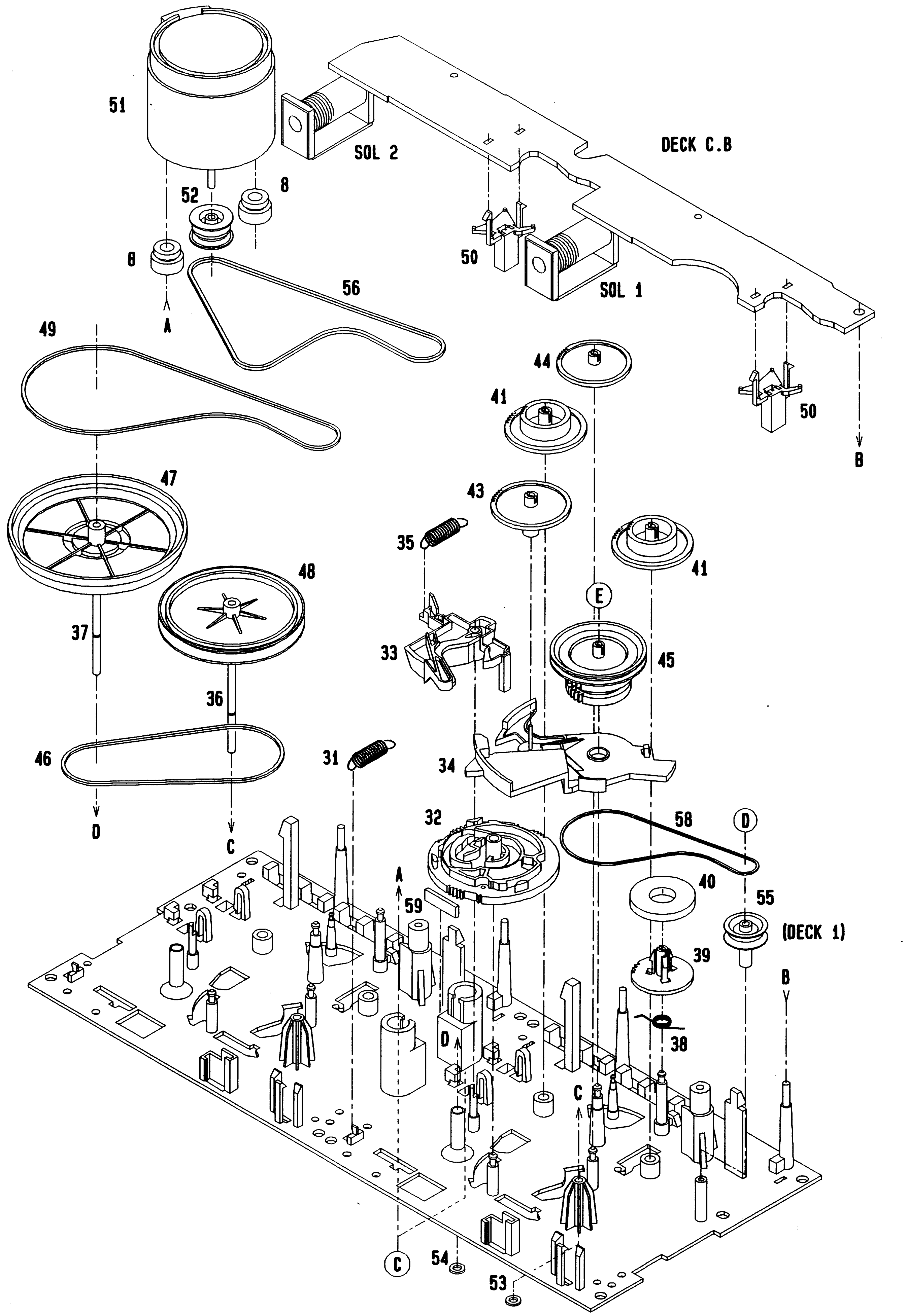
<DECK SECTION>

Tape speed : 3000Hz ± 45Hz
Wow & flutter : Less than 0.18% (R.M.S)
Take-up torque : 30 ~ 55g-cm (FWD, REV)
F.F & REW torque : 75 ~ 180g-cm (F.F)
75 ~ 130g-cm (REW)
Back tension : 2 ~ 7g-cm (DECK1,2)
PB Output level : 300mV ± 1dB (DECK1,2)
REC/PB Output level : 180mV ± 1dB
Distortion (REC/PB) : Less than 2.0% (NORM, CrO2,1kHz)
Noise level (PB/REC) : Less than 2.0/1.2mV (NORM, DOLBY OFF/ON B.C)
Less than 1.5/0.9mV (CrO2, DOLBY OFF/ON B.C)
Crosstalk : More than 60dB (1kHz, NORM)
Channel separation : More than 30dB (1kHz, NORM)
Erasing ratio : More than 60dB (at 125Hz,CrO2)
Test tape : NORM : TTA-602
CrO2 : TTA-615

TAPE MACHANISM EXPLODED VIEW 1 / 1



14
15
B
B
A
42
PH (DECK 1)
RPH (DECK 2)
16
12
13
17
11
10
18
(DECK 2)
9
7
3
18
(DECK 1)
19
2
5
6
A
4
20
HEAD 1 C.B (DECK 1)
HEAD 2 C.B (DECK 2)
22
57
(DECK 1)
21
24
29
(DECK 2)
25
23
26
29 (DECK 2)
A
27
1
28



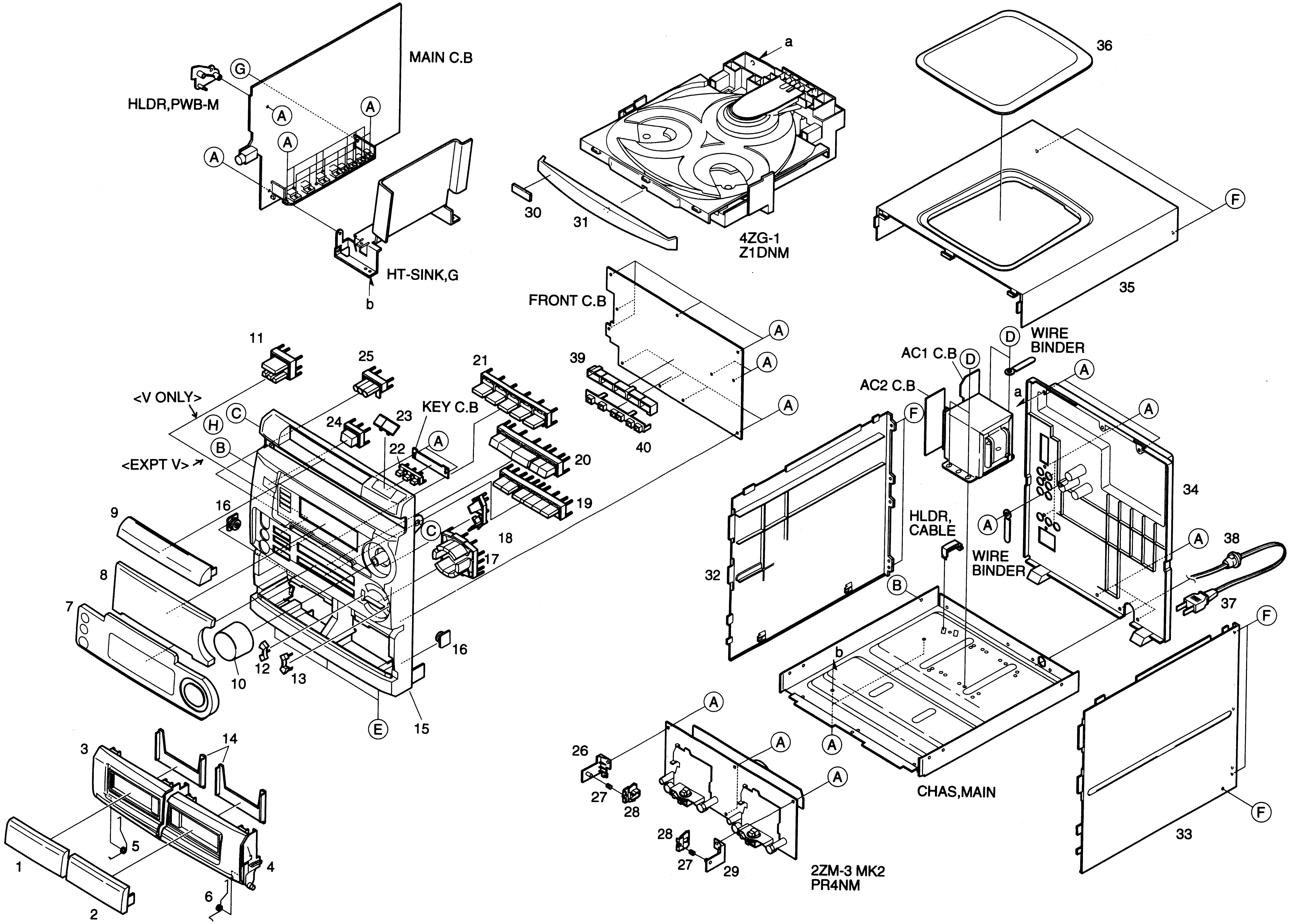
TAPE MECHANISM PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM3-301-519		CHAS ASSY,M2
2	82-ZM1-258-110		SPR-T,PINCH L
3	82-ZM1-341-010		LVR ASSY,PINCH L2
4	82-ZM1-333-010		PLATE,LINK 2
5	82-ZM1-266-11K		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-81K		CHAS,HEAD
8	82-ZM3-307-019		CUSH-G,DIA3.7-8-3.2
9	82-ZM1-269-219		SPR-T,BRG
10	82-ZM1-219-119		SPR-T,LINK
11	82-ZM1-210-119		GEAR,H T
12	82-ZM1-213-019		SPR-T,HEAD
13	82-ZM1-207-619		GUIDE,TAPE
14	86-ZM4-206-010		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-119		HLDR,HEAD
17	82-ZM1-218-019		SPR-E,HB
18	82-ZM1-263-110		LVR,EJECT L (DECK 1)
18	82-ZM1-264-010		LVR,EJECT R (DECK 2)
19	82-ZM1-222-21K		LVR,PLAY
20	82-ZM1-217-319		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-310		SPR-C,BT L
23	82-ZM1-257-019		SPR-T,CAS
24	82-ZM1-241-319		LVR,MC
25	82-ZM1-242-019		LVR,CAS
26	82-ZM1-243-019		LVR,STOP
27	82-ZM1-344-110		LVR ASSY,PINCH R2
28	82-ZM1-259-110		SPR-T,PINCH R
29	82-ZM1-240-11K		LVR,REC (DECK 2)
30	82-ZM1-298-010		SPR-P,EARTH
31	82-ZM1-255-319		SPR-E,LVR DIR
32	82-ZM3-305-01K		GEAR,CAM M2
33	82-ZM1-227-21K		LVR,TRIG
34	82-ZM3-306-11K		LVR,FR M2

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
35	82-ZM1-265-119		SPR-E,TRIG
36	82-ZM1-236-019		CAPSTAN N 2-41.5
37	82-ZM1-239-019		CAPSTAN N 2.2-41.7
38	82-ZM1-322-019		SPR-T,FR60
39	82-ZM1-220-219		GEAR,IDLER
40	82-ZM3-616-019		RING MAGNET 4
41	82-ZM1-216-31K		GEAR,REEL
42	87-A90-319-010		HEAD,PH HADKH2 FPC
42	87-A90-320-010		HEAD,RPH HADKH5 FPC
43	82-ZM1-225-21K		GEAR,FR
44	82-ZM1-226-019		GEAR,REW
45	82-ZM3-333-310		SLIP DISK ASSY 2
46	82-ZM1-338-010		BELT FR4
47	82-ZM1-349-110		FLY-WHL ASSY,R W(DECK 2)
47	82-ZM3-338-110		FLY-WHL ASSY,R3 W(DECK 1)
48	82-ZM1-348-010		FLY-WHL ASSY,L W(DECK 2)
48	82-ZM1-348-010		FLY-WHL ASSY,L W(DECK 1)
49	82-ZM3-329-210		BELT,SBU R2
50	82-ZM1-245-210		HLDR,IC
51	87-045-347-019		MOT,SHU2L 70(M1)
52	82-ZM3-221-010		PULLEY,MOT 2M
53	82-ZM1-288-019		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-019		SH,1.75-3.6-0.5 SLT
55	82-ZM3-335-210		PULLEY,COUPLER M3(DECK 1)
56	82-ZM3-337-010		BELT,SBU MOT 2
57	82-ZM3-339-010		SHAFT,COUPLER N3(DECK 1)
58	86-ZM1-206-010		BELT,MAIN L
59	82-ZM3-340-010		SH,BELT D2
A	85-ZM3-202-010		SCREW,TG
B	80-ZM6-207-019		V+1.6-7
C	82-ZM3-318-019		S-SCRW MOTOR M2
D	87-B10-043-010		W-P,0.99-4-0.25 SLT
E	82-ZM3-334-010		PW,2.16-6-0.4

MECHANICAL EXPLODED VIEW 1 / 1


MAIN C.B
HLDR,PWB-M
G
A
HT-SINK,G
b
a
30
31
4ZG-1
Z1DNM
36
F
35
FRONT C.B
11
25
21
39
40
<V ONLY>
<EXPT V>
C
H
B
KEY C.B
24
23
22
20
19
18
17
16
9
8
7
10
12
13
15
E
14
3
1
2
4
5
6
AC1 C.B
AC2 C.B
D
WIRE BINDER
34
32
HLDR, CABLE
WIRE BINDER
38
37
33
CHAS,MAIN
26
27
28
29
2ZM-3 MK2
PR4NM

MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

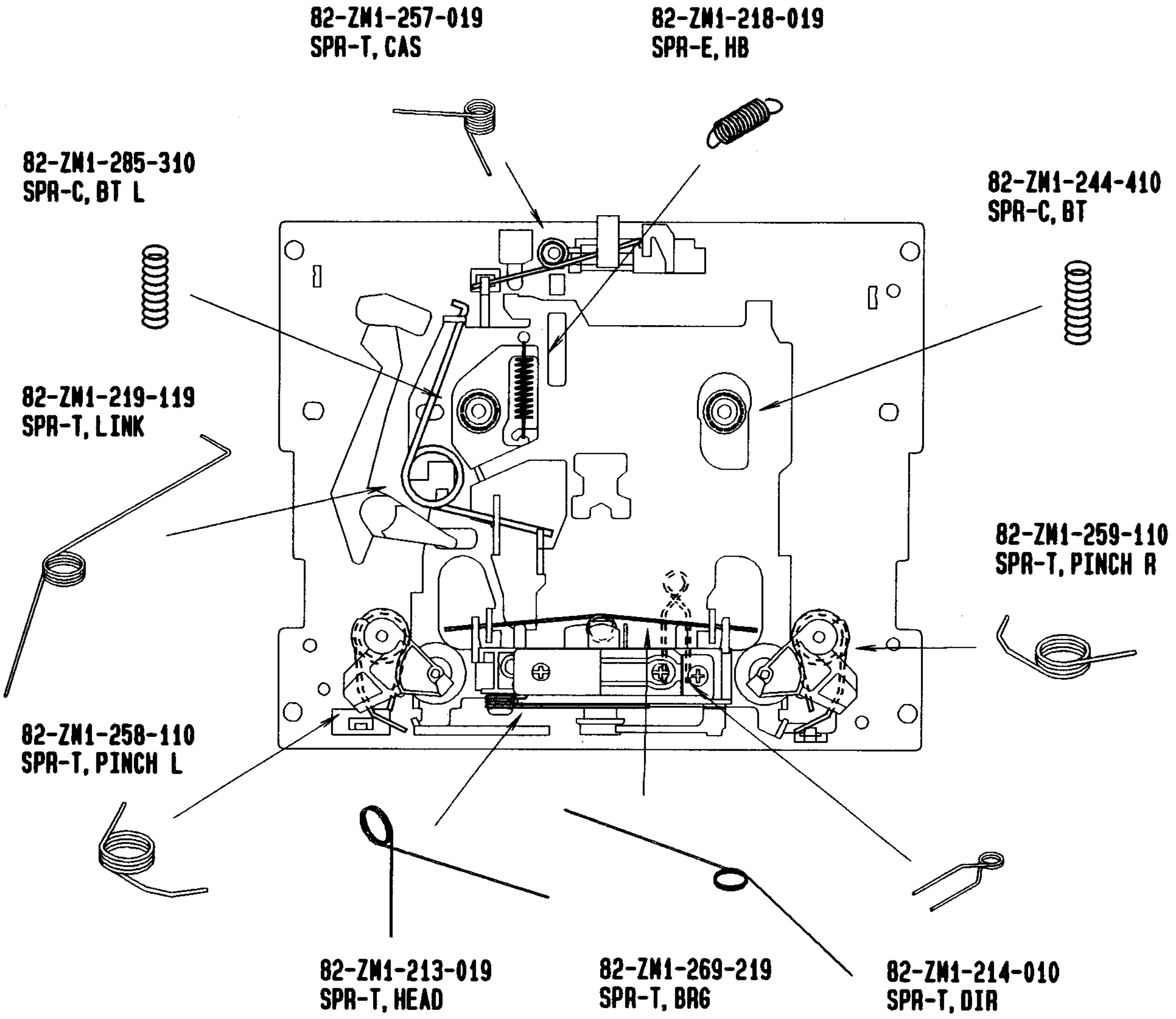
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NF6-041-010		WINDOW,CASS 1
2	87-NF6-042-010		WINDOW,CASS 2
3	87-NF6-013-010		BOX,CASS 1E
4	87-NF6-014-010		BOX,CASS 2E
5	82-NF5-218-010		SPR-T,EJECT 1(SIN)
6	82-NF5-219-010		SPR-T,EJECT 2(SIN)
7	87-NF6-019-010		PANEL,FR E<50EZ,52EZ>
7	87-NF6-010-010		PANEL,FR K<K,V>
8	87-NF6-047-010		WINDOW,DISPLAY E<50EZ>
8	87-NF6-009-010		WINDOW,DISPLAY K<K,V>
8	87-NF6-072-010		WINDOW,DISPLAY<52EZ>
9	87-NF6-043-010		WINDOW,CD
10	87-NF6-036-010		KNOB,RTRY VOL
11	87-NF6-035-010		KEY,RDS<50EZ,52EZ>
12	87-NF6-040-010		PANEL,T-BASS
13	87-NF6-039-010		PANEL,BBE
14	86-NF6-061-010		REFLECTOR,CASS
15	87-NF6-003-010		CABI,FR E
16	87-063-165-010		OIL-DMPR,150
17	87-NF6-026-010		KEY,CURSOR H
18	87-NF6-028-010		KEY,MIC
19	87-NF6-033-010		KEY,REC E
20	87-NF6-049-010		KEY,ASSY PLAY
21	87-NF6-029-010		KEY,FUNCTION
22	87-NF6-045-010		KEY,DISC
23	87-NF6-024-010		KEY,CD
24	87-NF6-025-010		KEY,POWER
25	87-NF6-034-010		KEY,KARAOKE
26	87-NF4-216-010		HLDR,LOCK 1
27	82-NF5-228-010		SPR-C,LOCK
28	82-NF5-229-010		PLATE,LOCK(*)
29	87-NF4-217-010		HLDR,LOCK 2
30	82-NE6-067-010		BADGE,AIWA 30N
31	87-NF6-018-010		PANEL,TRAY E
32	87-NF6-022-010		PANEL,LEFT
33	87-NF6-023-010		PANEL,RIGHT
34	87-NF6-053-010		CABI,REAR EZSTNE<50EZ>
34	87-NF6-057-010		CABI,REAR KSTNE<K>
34	87-NF6-058-110		CABI,REAR KSTNE<V>
34	87-NF6-064-110		CABI,REAR EZSTNE<52EZ>
35	87-NF6-021-010		PANEL,TOP
36	86-NF6-007-010		WINDOW,TOP
⚠ 37	87-050-016-010		AC CORD ASSY,E<50EZ,52EZ>
⚠ 37	87-A80-023-010		AC CORD ASSY,K 3P W<K>
⚠ 37	87-050-079-010		AC CORD ASSY,E<V>
38	87-085-185-010		BUSHING,AC CORD(E) CM-22B
39	87-NF6-201-010		GUIDE,FUN
40	87-NF6-202-010		GUIDE,PLAY
A	87-067-703-010		BVT2+3-10 W/O SLOT
B	87-723-096-410		QT2+3-10 W/O SLOT
C	87-721-097-410		QT2+3-12 W/O SLOT
D	87-078-019-010		S-SCREW,IT+4-6 SWCH12A
E	87-067-688-010		BVTT+3-6
F	87-B10-091-010		UTT2+3-10 W/O SLOT
G	87-NF4-224-010		S-SCREW,IT3B+3-8
H	87-723-096-410		QT2+3-10W/O SLOT BL<V>

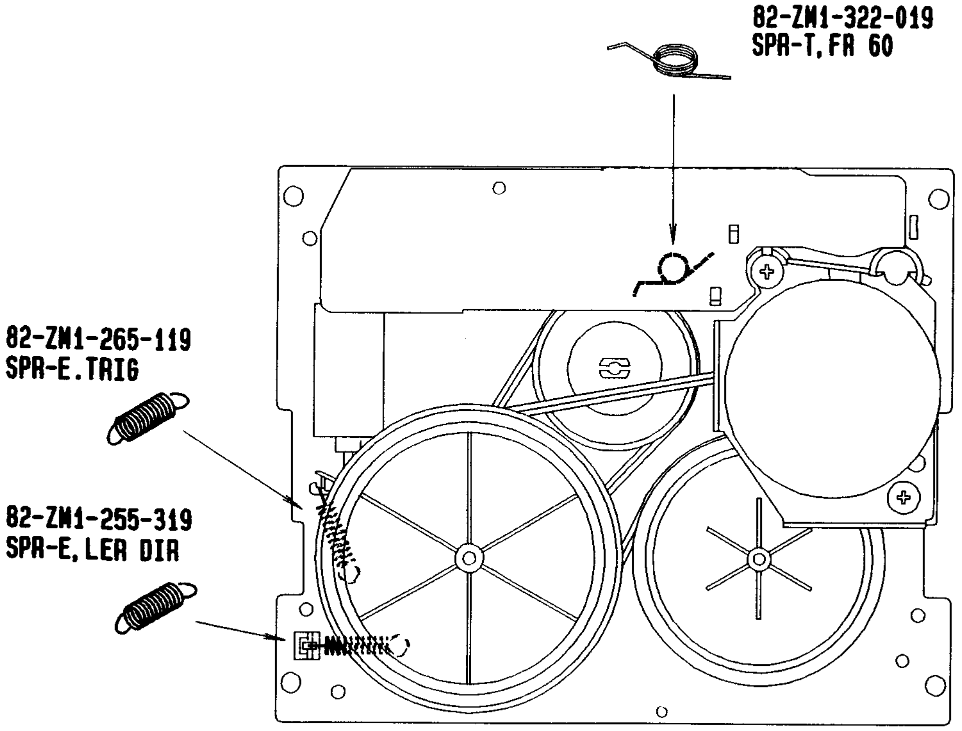
ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NF6-906-019		IB,E(EGFSI)E<50EZ>
1	87-NF6-916-019		IB,E(EGFSI)E-52<52EZ>
1	87-NF6-905-019		IB,K(E)K<K>
1	87-NF6-907-019		IB,V(ERHPCH)M<V>
2	87-A90-064-016		FEEDER-ANT,FM (SHS)<V>
2	87-043-106-019		ANT,FM1007AWG<EXP V>
3	87-006-225-019		ANT,LOOP ANT NC2
5	87-NF6-630-019		RC UNIT,RC-7AS06
⚠ 6	87-A90-312-016		PLUG,CONVERSION WTN-1157R1<EXP V>

SPRING APPLICATION POSITION


82-ZM1-257-019
SPR-T, CAS
82-ZM1-218-019
SPR-E, HB
82-ZM1-285-310
SPR-C, BT L
82-ZM1-244-410
SPR-C, BT
82-ZM1-219-119
SPR-T, LINK
82-ZM1-259-110
SPR-T, PINCH R
82-ZM1-258-110
SPR-T, PINCH L
82-ZM1-213-019
SPR-T, HEAD
82-ZM1-269-219
SPR-T, BRG
82-ZM1-214-010
SPR-T, DIR

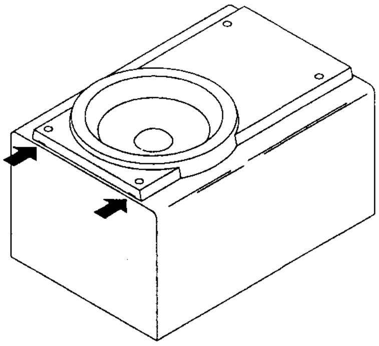

82-ZM1-322-019
SPR-T, FR 60
82-ZM1-265-119
SPR-E. TRIG
82-ZM1-255-319
SPR-E, LER DIR

SPEAKER DISASSEMBLY INSTRUCTIONS

Type.1

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

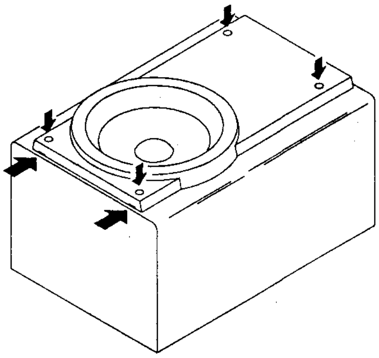
Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.2

グリルフレームを外し、4個のゴムキャプをマイナスドライバーで端の方から持ち上げて外すと中にビスが有りますので、ビスを取り外します。矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットのビスを取り、スピーカーユニットを外してください。

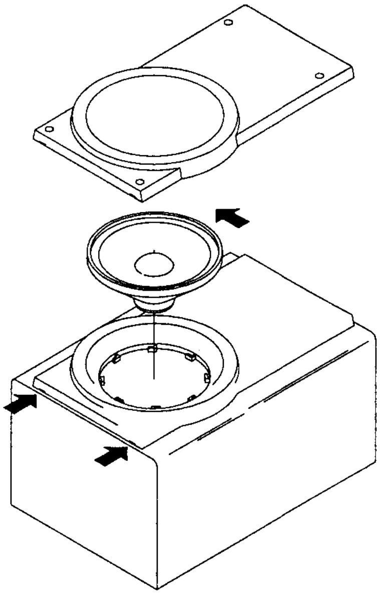
Remove the grill frame and four pieces of rubber caps by pulling out with a flat-bladed screwdriver Remove the screws from hole where installed rubber caps. Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Remove the screws of each speaker unit and then remove the speaker units.



Type.3

矢印の位置にマイナスドライバーを差し込んで、パネルを外します。各々のスピーカーユニットの凹にマイナスドライバーを差し込んで、反時計方向に回転させスピーカーユニットを外してください。スピーカーユニット交換後は時計方向にクリック音がするまで、回転させて取り付けます。

Insert a flat-bladed screwdriver into the position indicated by the arrows and remove the panel. Turn the speaker unit to counterclockwise direction while inserting a flat-bladed screwdriver into one of the hollows arround speaker unit, and then remove the speaker unit. After replacing the speaker unit, install it turning to clockwise direction until "click" sound comes out.



SPEAKER PARTS LIST (SX-FNS50<YJST,YST>)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NS6-001-019		PANEL,FR
2	87-NS6-002-019		PANEL,BA
3	87-NS6-004-019		HLDR,SQ
4	87-NS5-606-019		SPKR,80
5	87-NS6-611-019		SPKR,CORD Y/B
6	87-NS4-611-019		SPKR,CORD
7	87-NS6-007-019		GRILLE,FRAME ASSY
8	87-NSA-602-019		SPKR,W 160<YJST>
8	87-NS5-602-019		SPKR,W 160<YST>
9	86-NS5-604-019		SPKR,T 80<YJSY>
9	86-NSA-610-019		SPKR,T 60H<YST>
10	87-NS4-610-019		SPKR,CODE Y/B
11	87-NS6-601-019		SPKR,CORD

SPEAKER PARTS LIST (SX-ANS70<YST>)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NS5-001-019		PANEL,FR R
2	87-NS5-002-019		PANEL,FR L
3	87-NS5-025-019		GRILLE,FRAME ASSY R
4	87-NS5-026-019		GRILLE,FRAME ASSY L
5	87-NS4-611-019		SPKR,CORD
6	87-NS6-611-019		SPKR,CORD Y/B
7	87-NS5-602-019		SPKR,W 160
8	87-NS5-604-019		SPKR,MID
9	87-NS5-605-019		SPKR,T 50

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

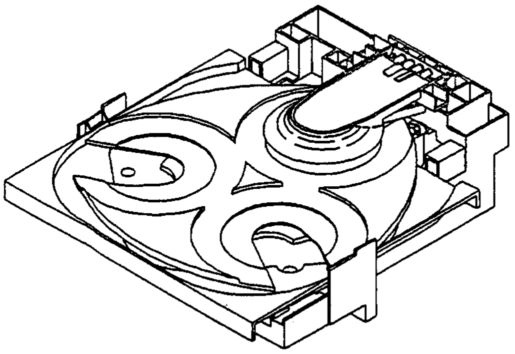
DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

aiwa

aiwa SERVICE

V18295

4ZG-1Z



CD MECHANISM

• BASIC CD MECHANISM: KSM-2 131 BAM / 3ZG-2C7N

•TYPE: English.Japanese

BASIC NAME	DERIVATION NAME							
4ZG-1Z	1D	2D	1MD	–		–	–	–

S/M Code No. 09-973-187-50T (Service Manual)
S/M Code No. 09-984-270-60T (Correction)

SERVICE MANUAL

安全に修理(補修)をするために

修理の前に「安全に修理(補修)をするために」をよくお読みの上、正しく修理を行ってください。このサービスマニュアルでは、お客様が製品を安全に正しくお使いいただき、お客様や他の人々への危害や財産への損害を未然に防止するために、修理する場合必ず下記の項目をお守りください。

⚠警告

警告に示された次の内容を必ずお守りください。

☞もし守られないと、火災や感電、けがなどの重度の損害を負う原因となります。

1.⚠安全規格部品注意文

・製品の安全性を維持する為の重要部品で、安全上特別な規格で作られています。

このマークの部品を交換する時は必ず指定の部品を使用してください。

2.指定部品を使用すること。

セットの部品は難燃性や耐電圧など安全上の特性を持ったものとなっています。従って交換部品は、使用されていたものと同じ特性の部品を使用すること。特に回路図、部品表に⚠印で指定されている安全上重要な部品は必ず指定のものをご使用ください。

3.電源コードを含むＡＣ1次側のリード線の被覆を傷つけたり、溶かしたりしないこと。

4.感電に注意すること。

内部には高電圧の部分がありますので通電時の取り扱いに際しては注意してください。

5.次の各項目は修理前と必ず同じであること。

1）ワイヤーの半田付け状態（特にＡＣ1次側の空間距離）

2）ワイヤーの引き回しおよび束線状態等

3）ワイヤーの種類

4）各種絶縁物の取付状態

7.部品の取り付けや配線の引き回しはもとどおりにすること。

安全上、チューブやテープなどの絶縁材料を使用したり、プリント基板から浮かしてとりつけた部品があります。また、内部配線は引き回しやクランパーによって発熱部品や高圧部品に接近しないよう配慮されていますので、これらは必ずもとどおりにすること。

⚠注意

この表示を無視して、誤った取り扱いをすると、人が傷害を負ったり物的損害が発生する可能性があります。

1.注意事項を守ること。

サービスの時特に注意を要する箇所につきましては、キャビネット、シャーシ、部品などにラベルや捺印で注意事項を表示しています。これらの注意書きおよび取扱説明書等の注意事項を必ず守ること。

2.スペック銘板・注意ラベル・ヒューズラベル等の表示文字を汚して読みにくくならないこと。

3.基板パターンの裏付け部品の修理等を行う場合、パターンや部品にボンドを塗布してプリント基板にしっかり固定すること。

4.サービス後は安全点検すること。

サービスのために取り外したネジ、部品、配線がもとどおりになっているか、サービスした個所の周辺を劣化させてしまったところがないかなどを点検すること。（ワイヤーの半田付け、引き回し、束線、種類、空間距離）

5.修理（補修）時に、レーザー出力部に接近しないでください。やむなく接近する場合は、目を閉じてください。レーザービームに接近することが必要になった場合、光学ピックアップブロックの対物レンズの表面から30cm以上離れていることを確認してください。

ギヤ、メインカムの位相の合わせ方

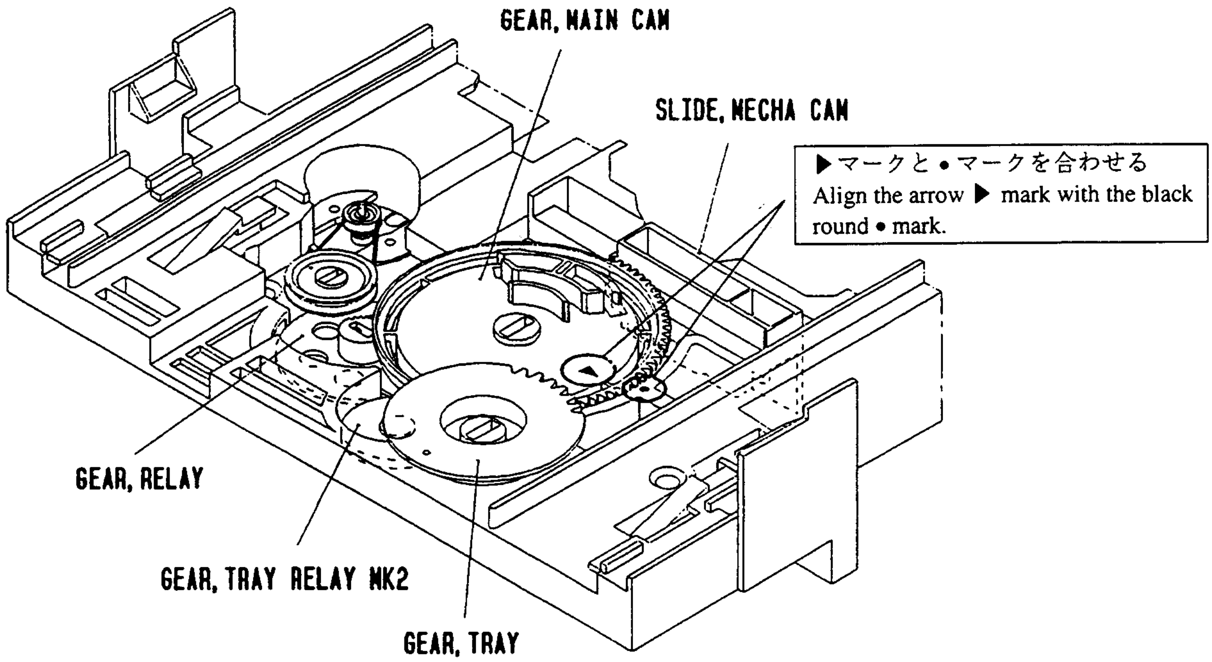
1) CHAS, MECHのツメを下側に押し、TRAYを外す。
2) 下図の様にGEAR, MAIN CAMの矢印とCHAS, MECHAの点印を合わせる。
3) SLIDE, MECH CAMが右側の位置にある事を確認し、TRAYをゆっくり挿し込んで下さい。

注意: GEAR, MAIN CAMの位相がズレている場合、チャッキング及びトレーが誤動作を起こします。

How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.



▶マークと●マークを合わせる
Align the arrow ▶ mark with the black round • mark.

光学ブロック (KSS-213B) 交換時の注意

光学系ブロック内のレーザーダイオードは、衣服や人体に帯電した静電荷等で電位差を生じることにより、静電破壊することがあります。人体アース、作業台のアースをとり、衣服が触れぬよう注意して下さい。

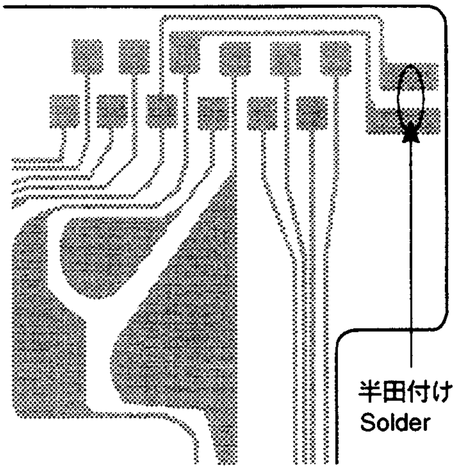
1) コネクターを接続後、右図に示すハンダ付けを取り除いて下さい。

Precaution to replace Optical block (KSS-213B)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



ELECTRICAL MAIN PARTS LIST

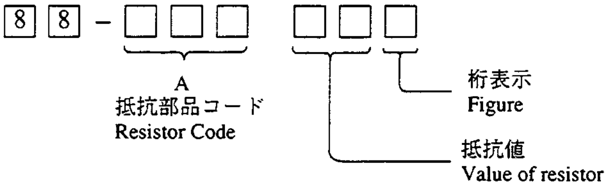
DESCRIPTIONで判断できない物は“REFERENCE NAME LIST”を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
IC			
	87-A20-446-010	1E	C-IC,LA9241ML
	87-A20-459-010	2A	C-IC,LC78622ED
	87-A20-445-010	1F	IC,BA5936
TRANSISTOR			
	87-A30-066-080	0E	TR,2SA1175FE
	87-A30-076-080	0E	C-TR,2SC3052F
	87-A30-047-080	0E	TR,CSD655E
	87-026-609-080	0E	TR,KTA1266GR
	87-A30-073-080	0E	C-TR,RT1N 141C
	87-A30-039-040	0E	C-TR,2SD1383K<1MD>
DIODE			
	87-002-564-080	0E	DIODE,1SS133-RA
3CD C.B			
	84-ZG1-244-210	1A	CABI,OPTICAL
C11	87-012-393-080	0E	C-CAP,S 0.22-16 K W5R CM/CB
C12	87-012-157-080	0E	C-CAP,S 330P-50 J CH GRM
C13	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C14	87-A10-201-080	0E	C-CAP,S 0.33-16 K B
C15	87-010-590-080	0E	C-CAP,S 0.015-16 K R
C16	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C17	87-010-181-080	0E	C-CAP,S 1800P-50 K B
C18	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C19	87-010-198-080	0E	C-CAP,S 0.022-25 K B
C20	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C21	87-012-393-080	0E	C-CAP,S 0.22-16 K W5R CM/CB
C22	87-016-083-080	0E	C-CAP,S 0.15-16 K R
C23	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C24	87-010-186-080	0E	C-CAP,S 4700P-50 K B
C25	87-010-400-040	0E	CAP,E 0.47-50 SME
C26	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C27	87-010-382-040	0E	CAP,E 22-25 SME
C28	87-010-403-040	0E	CAP,E 3.3-50 SME
C29	87-010-184-080	0E	C-CAP,S 3300P-50 K B
C30	87-010-146-080	0E	C-CAP,S 2P-50 C CH GRM
C31	87-010-186-080	0E	C-CAP,S 4700P-50 K B
C32	87-010-152-080	0E	C-CAP,S 8P
C33	87-016-081-080	0E	C-CAP,S 0.1-16 K R
C35	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C37	87-010-405-080	0E	CAP,E 10-50 M SME
C38	87-010-263-080	0E	CAP,E 100-10 SME
C39	87-016-369-080	0E	C-CAP,S 0.033-25 K B
C40	87-010-401-080	0E	CAP,E 1-50 M SME
C41	87-A10-201-080	0E	C-CAP,S 0.33-16 K B
C42	87-010-263-080	0E	CAP,E 100-10 SME
C43	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C44	87-010-263-080	0E	CAP,E 100-10 SME
C46	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C47	87-010-260-080	0E	CAP,E 47-25 SME
C48	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C49	87-010-404-080	0E	CAP,E 4.7-50 M SME
C50	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C51	87-010-263-040	0E	CAP,E 100-10 M SME
C101	87-016-081-080	0E	C-CAP,S 0.1-16 K R
C102	87-016-081-080	0E	C-CAP,S 0.1-16 K R
C103	87-010-321-080	0E	C-CAP,S 82P-50 J CH
C104	87-012-154-080	0E	C-CAP,S 150P-50 J CH GRM
C105	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C109	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C111	87-010-312-080	0E	C-CAP,S 15P
C112	87-010-154-080	0E	C-CAP,S 10P-50 D CH
C113	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C115	87-010-404-080	0E	CAP,E 4.7-50 M SME
C116	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C117	87-010-263-040	0E	CAP,E 100-10 M SME
C118	87-010-178-080	0E	C-CAP,S 1000P-50 K B
C119	87-010-154-080	0E	C-CAP,S 10P-50 D CH
C121	87-010-405-080	0E	CAP,E 10-50 M SME
C122	87-010-405-080	0E	CAP,E 10-50 M SME
C123	87-012-157-080	0E	C-CAP,S 330P-50 J CH GRM
C124	87-012-157-080	0E	C-CAP,S 330P-50 J CH GRM
C131	87-010-382-080	0E	CAP,E 22-25 M SME
C191	87-010-263-040	0E	CAP,E 100-10 M SME
C301	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C302	87-010-382-080	0E	CAP,E 22-25 M SME
C501	87-010-381-080	0E	CAP,E 330-16 SME
C502	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C504	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C505	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C506	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C507	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C509	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C510	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C603	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C610	87-010-405-080	0E	CAP,E 10-50 M SME
C611	87-010-405-080	0E	CAP,E 10-50 M SME
C701	87-010-405-080	0E	CAP,E 10-50 M SME
C705	87-010-197-080	0E	C-CAP,S 0.01-25 K B
C706	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
C711	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C712	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C713	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C721	87-010-322-080	0E	C-CAP,S 100P-50 J CH
C901	87-010-260-080	0E	CAP,E 47-25 SME
C902	87-010-196-080	0E	C-CAP,S 0.1-25 Z F C2012
CON3	84-ZG1-648-010	1A	CONN ASSY,6P<1MD,1D>
FC1	85-NFT-611-110	1A	FF-CABLE 16P-1.0
FC4	84-ZG1-614-210	1A	F-CABLE,5P 1.25 210MM
FC5	84-ZG1-630-010	0E	CABLE FFC 6P-1.25<2D>
L11	87-005-602-080	0E	COIL,10UH J LAV35
L101	87-005-614-080	0E	COIL,100UH
L102	87-005-602-080	0E	COIL,10UH J LAV35
LED901	87-A40-123-010	0E	LED,SLZ-8128A-01-B
M601	87-045-305-010	1D	MOT,RF-500TB
SW701	87-036-109-010	0E	SW,MICRO SPPB61
SW702	87-036-109-010	0E	SW,MICRO SPPB61
X101	87-A70-046-010	--	VIB,XTAL 16.934MHZ
LED C.B			
LED701	87-A40-316-080	0E	LED,SLR-56PCT31 GRN
LED702	87-A40-268-080	0E	LED,SLH-56DCT31 ORN
LED703	87-A40-268-080	0E	LED,SLH-56DCT31 ORN
LED704	87-A40-316-080	0E	LED,SLR-56PCT31 GRN
T-T C.B			
C401	87-018-214-080	0E	CAP,TC U 0.1-50 Z F SA
M401	87-045-364-010	1D	MOT,BCH3B
PS401	87-026-573-010	1B	SNSR,PHOTO GP1S53
MOTOR C.B<1MD,1D>			
M2	9X-262-513-210	2M	SLED MOTOR ASSY<1MD,1D>
PIN3	91-564-722-110	1C	CONNECTOR 6P<1MD,1D>
SW1	91-572-085-110	1B	LEAF SW<1MD,1D>

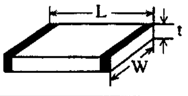
REF. NO	PART NO.	カンリ NO.	DESCRIPTION
DRIVE C.B<2D>			
M1	87-045-358-010	1F	MOT,RF-310TA 43<2D>
M2	87-045-356-010	1F	MOT,RF-310TA 30<2D>
SW1	87-A90-042-010	0E	SW,LEAF MSW-17310MVPO<2D>

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

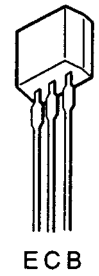
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8 8 - □□□ □□□
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

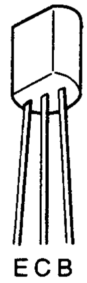
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード :A Resistor Code: A
				外形／Form	L	W	t	
1／16W	1608	±5%	CJ		1.6	0.8	0.45	108
1／10W	2125	±5%	CJ		2	1.25	0.45	118
1／8W	3216	±5%	CJ		3.2	1.6	0.55	128

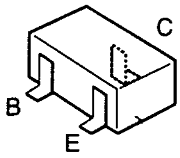
TRANSISTOR ILLUSTRATION



2SA1175

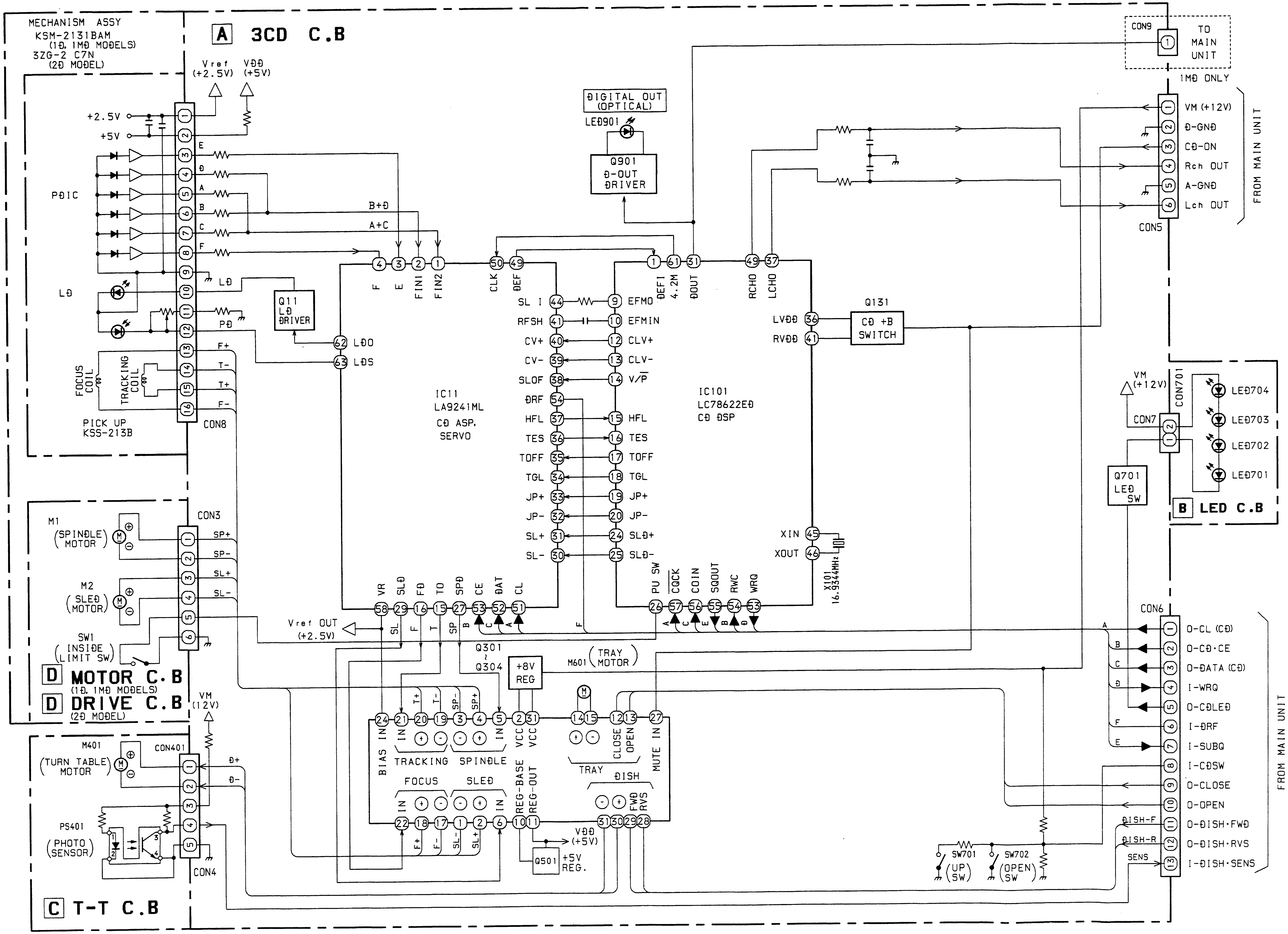


CSD655
KTA1266

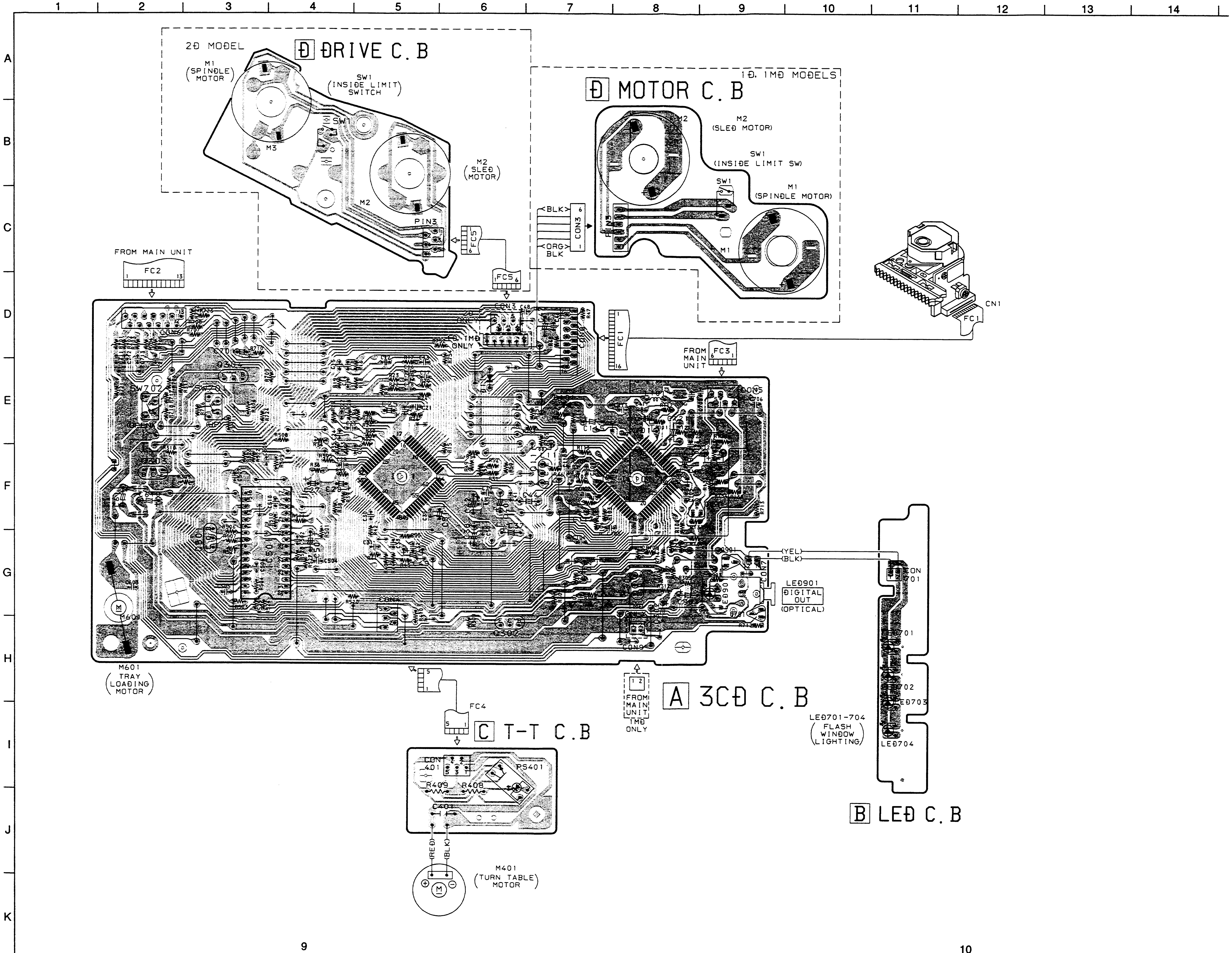


2SC3052
2SD1383
RT1N141C

BLOCK DIAGRAM


MECHANISM ASSY
KSM-2131BAM
(1Ð, 1MÐ MODELS)
3ZG-2 C7N
(2Ð MODEL)
A 3CD C.B
Vref (+2.5V)
VÐÐ (+5V)
+2.5V
+5V
PÐIC
LÐ
PÐ
FOCUS COIL
TRACKING COIL
PICK UP
KSS-213B
CON8
Q11
LÐ DRIVER
LÐO
LÐS
IC11
LA9241ML
CÐ ASP,
SERVO
IC101
LC78622EÐ
CÐ ÐSP
B+Ð
A+C
FIN1
FIN2
CLK
ÐEF
SL I
RFSH
CV+
CV-
SLOF
ÐRF
HFL
TES
TOFF
TGL
JP+
JP-
SL+
SL-
EFMO
EFMIN
CLV+
CLV-
V/P
SLÐ+
SLÐ-
ÐEFI
4.2M
ÐOUT
RCHO
LCHO
LVÐÐ
RVÐÐ
Q131
CÐ +B
SWITCH
XIN
XOUT
X101
16.9344MHz
PU SW
CQCK
COIN
SQOUT
RWC
WRQ
VR
SLÐ
FÐ
TÐ
SPÐ
CE
ÐAT
CL
ÐIGITAL OUT
(OPTICAL)
LEÐ901
Q901
Ð-OUT
ÐRIVER
CON9
TO MAIN UNIT
1MÐ ONLY
VM (+12V)
Ð-GNÐ
CÐ-ON
Rch OUT
A-GNÐ
Lch OUT
CON5
FROM MAIN UNIT
VM (+12V)
CON7
CON701
LEÐ704
LEÐ703
LEÐ702
LEÐ701
Q701
LEÐ SW
B LED C.B
CON6
O-CL (CÐ)
O-CÐ·CE
O-ÐATA (CÐ)
I-WRQ
O-CÐLEÐ
I-ÐRF
I-SUBQ
I-CÐSW
O-CLOSE
O-OPEN
O-ÐISH·FWÐ
O-ÐISH·RVS
I-ÐISH·SENS
ÐISH-F
ÐISH-R
SENS
FROM MAIN UNIT
SW701 (UP SW)
SW702 (OPEN SW)
M1 (SPINÐLE MOTOR)
M2 (SLEÐ MOTOR)
SW1 (INSIÐE LIMIT SW)
CON3
SP+
SP-
SL+
SL-
D MOTOR C.B
(1Ð, 1MÐ MODELS)
D DRIVE C.B
(2Ð MODEL)
VM (12V)
Vref OUT (+2.5V)
Q301 ~ Q304
+8V REG
M601 (TRAY MOTOR)
BIAS IN
TRACKING
SPINÐLE
FOCUS
SLEÐ
VCC
REG-BASE
REG-OUT
TRAY
CLOSE
OPEN
ÐISH
FWÐ
RVS
MUTE IN
VÐÐ (+5V)
Q501
+5V REG.
M401 (TURN TABLE MOTOR)
CON401
Ð+
Ð-
PS401 (PHOTO SENSOR)
CON4
C T-T C.B

WIRING


1
2
3
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7
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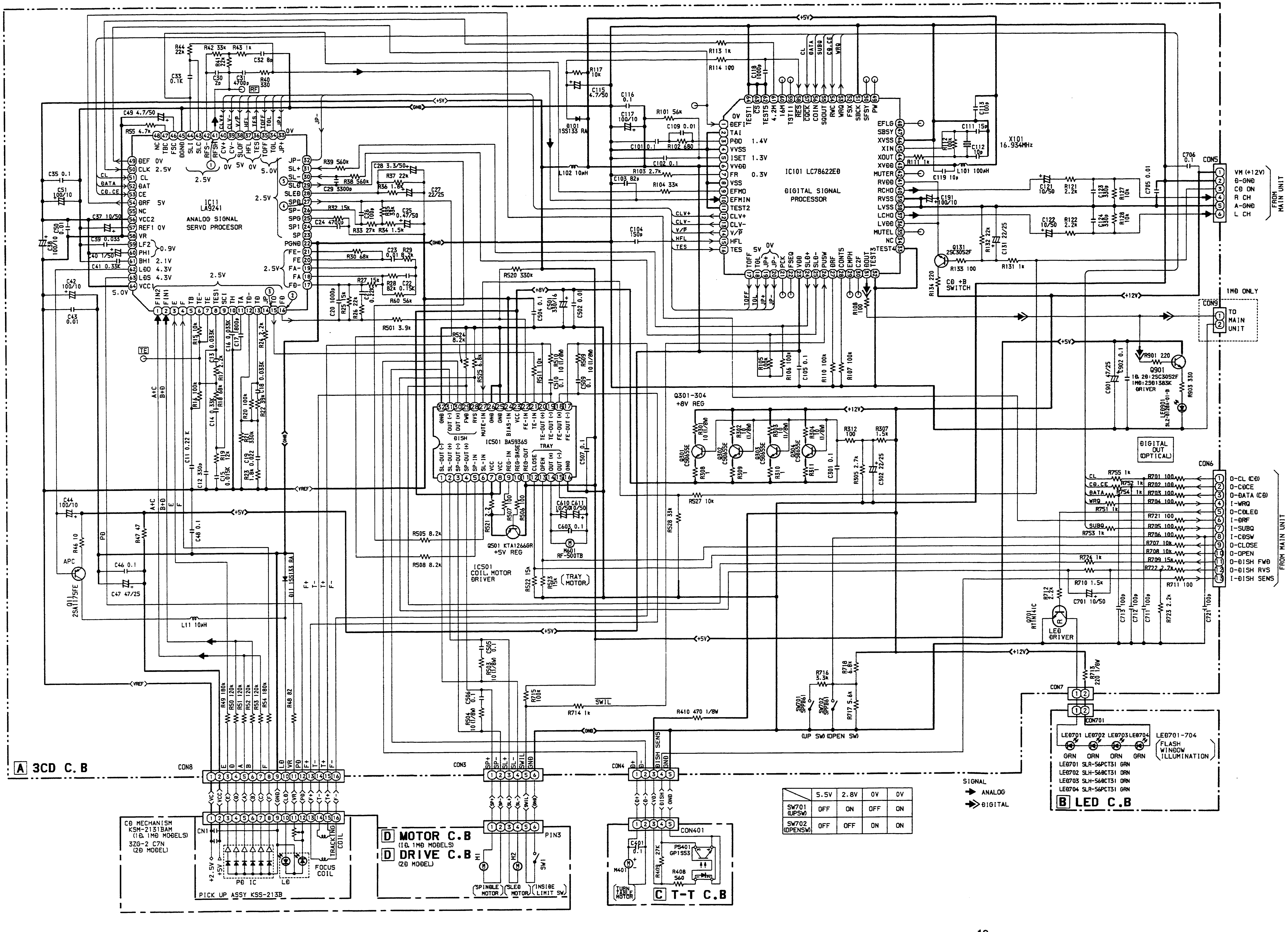
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
K
2D MODEL
D DRIVE C.B
M1 (SPINDLE MOTOR)
SW1 (INSIDE LIMIT SWITCH)
SW1
M3
M2 (SLED MOTOR)
M2
PIN3
FC5
1D, 1MD MODELS
D MOTOR C.B
M2 (SLED MOTOR)
SW1 (INSIDE LIMIT SW)
SW1
M1 (SPINDLE MOTOR)
M1
BLK
ORG
BLK
CON3
CN1
FC1
FROM MAIN UNIT
FC2
FC5
CON3
2D ONLY
1D, 1MD ONLY
FROM MAIN UNIT
FC3
CON5
CON6
SW702
SW701
IC1
IC2
IC501
Q301
Q501
Q302
CON4
CON9
M601
M601 (TRAY LOADING MOTOR)
(YEL)
(BLK)
CON 701
LED901 DIGITAL OUT (OPTICAL)
LED701
LED702
LED703
LED704
LED701-704 (FLASH WINDOW LIGHTING)
FROM MAIN UNIT 1MD ONLY
A 3CD C.B
B LED C.B
FC4
C T-T C.B
CON 401
PS401
R409
R408
C401
(RED)
(BLK)
M401 (TURN TABLE MOTOR)

SCHEMATIC DIAGRAM

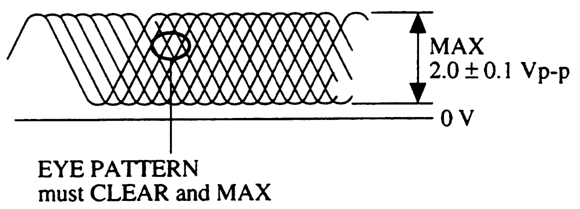


A 3CD C.B
IC11 LA9241 ANALOG SIGNAL SERVO PROCESOR
IC101 LC78622E0 DIGITAL SIGNAL PROCESSOR
IC501 BA5936S COIL MOTOR DRIVER
Q501 KTA1266GR +5V REG
Q301-304 +8V REG
Q11 2SA1175FE APC
Q131 2SC3052F CD +B SWITCH
Q901 1D 20:2SC3052F 1MD:2SD1383K DRIVER
Q701 RT1N141C LED DRIVER
X101 16.934MHz
M601 RF-500TB
TRAY MOTOR
DIGITAL OUT (OPTICAL)
CON5 FROM MAIN UNIT
VM (+12V)
D-GND
CD ON
R CH
A-GND
L CH
CON9 TO MAIN UNIT
1MD ONLY
CON6 FROM MAIN UNIT
O-CL (CD)
O-CDCE
O-DATA (CD)
I-WRQ
O-CDLED
I-DRF
I-SUBQ
I-CDSW
O-CLOSE
O-OPEN
O-DISH FWD
O-DISH RVS
I-DISH SENS
CON7
CON701
LE0701 LE0702 LE0703 LE0704
LE0701-704 (FLASH WINDOW ILLUMINATION)
GRN ORN ORN GRN
LE0701 SLR-56PCT31 GRN
LE0702 SLR-56DCT31 ORN
LE0703 SLR-56DCT31 ORN
LE0704 SLR-56PCT31 GRN
B LED C.B
SIGNAL
ANALOG
DIGITAL
SW701 SPPB61
SW702 SPPB61
(UP SW) (OPEN SW)
CON8
CON3
CON4
CD MECHANISM KSM-2131BAM (1D, 1MD MODELS)
3ZG-2 C7N (2D MODEL)
CN1
PD IC
LD
FOCUS COIL
TRACKING COIL
PICK UP ASSY KSS-213B
D MOTOR C.B (1D, 1MD MODELS)
D DRIVE C.B (2D MODEL)
PIN3
M1 M2 SW1
SPINDLE MOTOR
SLED MOTOR
INSIDE LIMIT SW
CON401
PS401 GP1S53
M401
TURN TABLE MOTOR
C T-T C.B

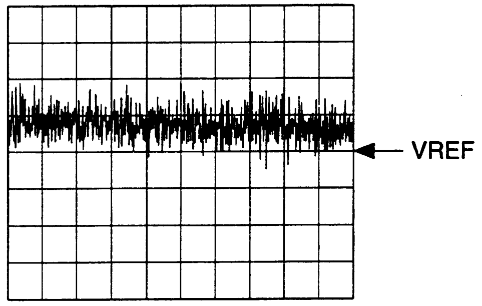
	5.5V	2.8V	0V	0V
SW701 (UPSW)	OFF	ON	OFF	ON
SW702 (OPENSW)	OFF	OFF	ON	ON

WAVE FORM

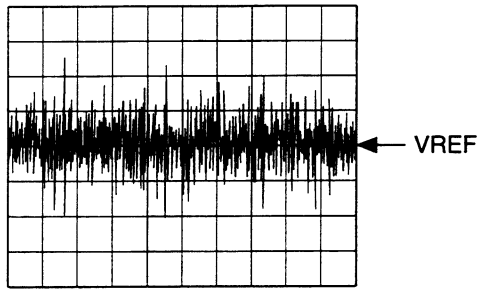
① IC11 Pin ㊶ (RFSM) VOLT/DIV: 0.5V TIME/DIV: 1μS



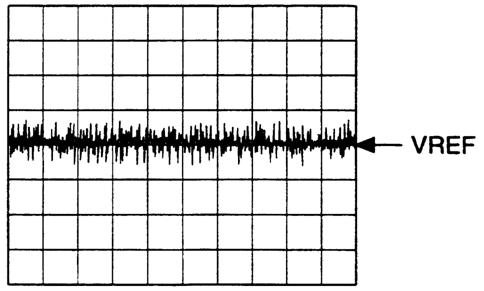
② IC11 Pin ⑯ (FD) VOLT/DIV: 100mV TIME/DIV: 1mS



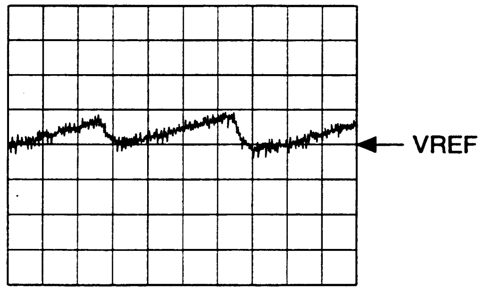
③ IC11 Pin ⑮ (TO) VOLT/DIV: 100mV TIME/DIV: 1mS



④ IC11 Pin ㉗ (SPD) VOLT/DIV: 100mV TIME/DIV: 1mS

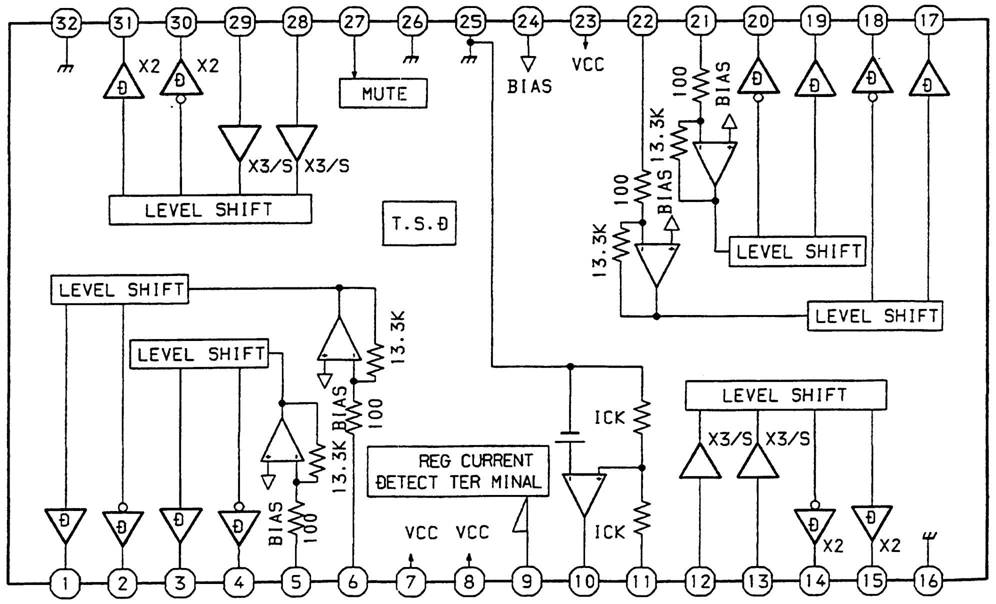


⑤ IC11 Pin ㉙ (SLD) VOLT/DIV: 200mV TIME/DIV: 2S



IC BLOCK DIAGRAM

IC, BA5936


X2
X2
X3/S
X3/S
MUTE
BIAS
VCC
100
BIAS
13.3K
LEVEL SHIFT
T.S.θ
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
LEVEL SHIFT
13.3K
100
BIAS
13.3K
REG CURRENT
DETECT TER MINAL
VCC VCC
ICK
ICK
X3/S
X3/S
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IC DESCRIPTION

IC, LA9241M

端子番号	端子名称	I/O	機　能　説　明
1	FIN2	I	ピックアップのフォトダイオード接続用ピン。FIN1ピンとの加算でRF信号を生成し、減算でFE信号を生成する。
2	FIN1	I	ピックアップのフォトダイオード接続用ピン。
3	E	I	ピックアップのフォトダイオード接続用ピン。Fピンとの減算でTE信号を生成する。
4	F	I	ピックアップのフォトダイオード接続用ピン。
5	TB	I	TE信号のDC成分入力用ピン。
6	TE−	I	TE信号のゲイン設定用抵抗をTEピン間に接続するピン。
7	TE	O	TE信号出力ピン。
8	TESI	I	TES“Track Error Sence”コンパレータ入力ピン。TE信号をバンドパスし、入力する。
9	SCI	I	ショック検出用入力ピン。
10	TH	I	トラッキングゲイン時定数設定用ピン。
11	TA	O	TAアンプ出力ピン。
12	TD−	I	トラッキング位相補償定数をTD、VRピン間で構成するためのピン。
13	TD	I	トラッキング位相補償設定用ピン。
14	JP	I	トラッキングシャンプ信号(キックパルス)振幅設定用ピン。
15	TO	O	トラッキング制御信号出力ピン。
16	FD	O	フォーカシング制御信号出力ピン。
17	FD−	I	フォーカシング位相補償定数をFD、FAピン間で構成するためのピン。
18	FA	I	フォーカシング位相補償定数をFD−、FA−ピン間で構成するためのピン。
19	FA−	I	フォーカシング位相補償定数をFA、FEピン間で構成するためのピン。
20	FE	O	FE信号の出力ピン。
21	FE−	I	FE信号のゲイン設定用抵抗をFEピン間に接続するピン。
22	AGND	—	アナログ信号用GND。
23	NC	—	NO CONNECT
24	SP	O	CV＋、CV−ピン入力信号のシングルエンド出力。
25	SPG	I	スピンドル12cmモード時ゲイン設定用抵抗接続ピン。
26	SP−	I	SPDピンとともにスピンドル位相補償定数接続用ピン。
27	SPD	O	スピンドル制御信号出力ピン。
28	SLEQ	I	スレッド位相補償定数接続用ピン。
29	SLD	O	スレッド制御信号出力ピン。
30、31	SL−、SL＋	I	マイコンからのスレッド送り信号入力ピン。
32、33	JP−、JP＋	I	DSPからのトラッキングジャンプ信号入力ピン。
34	TGL	I	DSPからのトラッキングゲインコントロール信号入力ピン。 TGL=「H」でゲインロー。
35	TOFF	I	DSPからのトラッキングオフコントロール信号入力ピン。 TOFF=「H」でオフ。
36	TES	O	TES信号をDSPへ出力するピン。
37	HFL	O	“High Frequency Level”は、メインビームの位置がピット上か、ミラー上かの判断に利用される。

端子番号	端子名称	I/O	機　能　説　明
38	SLOF	I	スレッドサーボオフコントロール入力ピン。
39、40	CV－、CV＋	I	DSPからのCLVエラー信号入力用ピン。
41	RFSM	O	RF出力ピン。
42	RFS－	I	RFSMピンとともにRFのゲイン設定およびEFM信号の3T補償定数設定用ピン。
43	SLC	O	"Slice Level Control"は、RF波形のDSPによるデータスライスのレベルを制御する出力ピン。
44	SLI	I	DSPによるデータスライスのレベルを制御するための入力ピン。
45	DGND	—	ディジタル系のGNDピン。
46	FSC	O	フォーカスサーチスムージングコンデンサ用出力ピン。
47	TBC	I	"Tracking Balance Control"EFバランス可変範囲用設定ピン。
48	NC	—	NO CONNECT
49	DEF	O	ディスクのディフェクト検出出力ピン。
50	CLK	I	基準クロック入力ピン。DSPの4.23MHzが入力される。
51	CL	I	マイコンコマンドクロック入力ピン。
52	DAT	I	マイコンコマンドデータ入力ピン。
53	CE	I	マイコンコマンドチップイネーブル入力ピン。
54	DRF	O	"Detect RF"RFレベル検出出力。
55	FSS	I	"Focus Serch Select"フォーカスサーチモード(基準電圧に対し±サーチ／＋サーチ)の切り換えピン。
56	VCC2	—	サーボ系、ディジタル系用VCCピン。
57	REFI	—	基準電圧用パスコン接続用ピン。
58	VR	O	基準電圧出力ピン。
59	LF2	I	ディスクのディフェクト検出時定数設定用ピン。
60	PH1	I	RF信号のピークホールド用コンデンサ接続用ピン。
61	BH1	I	RF信号のボトムホールド用コンデンサ接続用ピン。
62	LDD	O	APC回路出力ピン。
63	LDS	I	APC回路入力ピン。
64	VCC1	—	RF系VCCピン。

IC, LC78622E

端子番号	端子名称	I/O	機能説明	
1	DEFI	I	ディフェクト検出信号 (DEF) 入力端子。(未使用時、0Vに接続すること。)	
2	TAI	I	PLL用	テスト用入力端子。プルダウン抵抗内蔵。必ず0Vに接続すること。
3	PDO	O		外部VCO制御用位相比較出力端子。
4	VVSS	—		内蔵VCO用接地端子。必ず0Vに接続すること。
5	ISET	I		PDO出力の電流調整用抵抗接続端子。
6	VVDD	—		内蔵VCO用電源端子。
7	FR	I		VCO周波数レンジ調整用。
8	VSS	—	ディジタル系接地端子。必ず0Vに接続すること。	
9	EFMO	O	スライスレベルコントロール用	EFM信号出力端子。
10	EFMIN	I		EFM信号入力端子。
11	TEST2	I	テスト用入力端子。プルダウン抵抗内蔵。必ず0Vに接続すること。	
12、13	CLV+、CLK−	O	ディスクモータコントロール用出力。コマンドにより3値出力可能。	
14	V/$\overline{\text{P}}$	O	ラフサーボ／位相制御の自動切り換えモニタ出力端子。「H」でラフサーボ、「L」で位相サーボ。	
15	HFL	I	トラック検出信号入力端子。シュミット入力。	
16	TES	I	トラッキング誤差信号入力端子。シュミット入力。	
17	TOFF	O	トラッキングOFF出力端子。	
18	TGL	O	トラッキング・ゲイン切り換え用出力端子。「L」でゲインを上げる。	
19、20	JP+、JP−	O	トラックジャンプコントロール用出力。コマンドにより3値出力可能。	
21	PCK	O	EFMデータ再生用クロックモニタ端子。位相ロック時、4.3218MHz。	
22	FSEQ	O	同期信号検出出力端子。EFM信号から検出した同期信号と内部生成の同期信号が一致した時に「H」。	
23	VDD	—	ディジタル系電源端子。	
24～28	CONT1～CONT5	I/O	汎用入出力端子1～5	マイコンからのシリアルデータコマンドで制御。使用しない場合、入力端子に設定して0Vに接続するか出力端子に設定してオープンにすること。
29	EMPH	O	ディエンファシス・モニタ出力端子。「H」の時ディエンファシス・ディスク再生中。	
30	C2F	O	C2フラグ出力端子。	
31	DOUT	O	ディジタルOUT出力端子。(EIAJフォーマット)	
32、33	TEST3、TEST4	I	テスト用入力端子。プルダウン抵抗内蔵。必ず0Vに接続すること。	
34	N.C.	—	未使用端子。オープンで使用すること。	
35	MUTEL	O	Lチャネル1ビットDAC	Lチャネル用ミュート出力端子。
36	LVDD	—		Lチャネル用電源端子。
37	LCHO	O		Lチャネル出力端子。
38	LVSS	—		Lチャネル用接地端子。必ず0Vに接続すること。
39	RVSS	—	Rチャネル1ビットDAC	Rチャネル用接地端子。必ず0Vに接続すること。
40	RCHO	O		Rチャネル出力端子。
41	RVDD	—		Rチャネル用電源端子。
42	MUTER	O		Rチャネル用ミュート出力端子。
43	XVDD	—	水晶発振用電源端子。	

端子番号	端子名称	I/O	機能説明
44	XOUT	O	16.9344MHz水晶振動子の接続端子。
45	XIN	I	
46	XVSS	—	水晶発振用接地端子。必ず0Vに接続すること。
47	SBSY	O	サブコードブロックの同期信号出力端子。
48	EFLG	O	C1、C2、1重、2重の訂正モニタ端子。
49	PW	O	サブコードP、Q、R、S、T、U、Wの出力端子。
50	SFSY	O	サブコードフレーム同期信号出力端子。サブコードがスタンバイした時、立下る。
51	SBCK	I	サブコード読み出しクロック入力端子。シュミット入力。(未使用時0Vに接続すること。)
52	FSX	O	水晶発振から分周した7.35kHz同期信号出力端子。
53	WRQ	O	サブコードQ出力スタンバイ出力端子。
54	RWC	I	リード／ライト制御入力端子。シュミット入力。
55	SQOUT	O	サブコードQ出力端子。
56	COIN	I	マイコンからのコマンド入力端子。
57	$\overline{\text{CQCK}}$	I	コマンド入力取り込みクロックまたはSQOUTからのサブコード取り出しクロック入力端子。シュミット入力。
58	$\overline{\text{RES}}$	I	LC78622リセット入力端子。電源投入時に、一旦「L」にする。
59	TST11	O	テスト用出力端子。オープン (通常「L」出力) で使用すること。
60	16M	O	16.9344MHz出力端子。
61	4.2M	O	4.2336MHz出力端子。
62	TEST5	I	テスト用入力端子。プルダウン抵抗内蔵。必ず0Vに接続すること。
63	$\overline{\text{CS}}$	I	チップセレクト入力端子。プルダウン抵抗内蔵。非制御時、0Vに接続すること。
64	TEST1	I	テスト用入力端子。プルダウン抵抗はない。必ず0Vに接続すること。

注) 各電源端子 (VDD、VVDD、LVDD、RVDD、XVDD) には必ず同電位を供給すること。

IC, LA9241M

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Pin to which external pickup photo diode is connected. RF signal is created by adding with the FIN1 pin signal. FE signal is created by subtracting from the FIN1 pin signal.
2	FIN1	I	Pin to which external pickup photo diode is connected.
3	E	I	Pin to which external pickup photo diode is connected. TE signal is created by subtracting from the F pin signal.
4	F	I	Pin to which external pickup photo diode is connected.
5	TB	I	DC component of the TE signal is input.
6	TE–	I	Pin to which external resistor setting the TE signal gain is connected between the TE pin.
7	TE	O	TE signal output pin.
8	TESI	I	TES "Track Error Sense" comparator input pin. TE signal is passed through a band-pass filter then input.
9	SCI	I	Shock detection signal input pin.
10	TH	I	Tracking gain time constant setting pin.
11	TA	O	TA amplifier output pin.
12	TD–	I	Pin to which external tracking phase compensation constants are connected between the TD and VR pins.
13	TD	I	Tracking phase compensation setting pin.
14	JP	I	Tracking jump signal (kick pulse) amplitude setting pin.
15	TO	O	Tracking control signal output pin.
16	FD	O	Focusing control signal output pin.
17	FD–	I	Pin to which external focusing phase compensation constants are connected between the FD and FA pins.
18	FA	I	Pin to which external focusing phase compensation constants are connected between the FD– and FA– pins.
19	FA–	I	Pin to which external focusing phase compensation constants are connected between the FA and FE pins.
20	FE	O	FE signal output pin.
21	FE–	I	Pin to which external FE signal gain setting resistor is connected between the FE pin.
22	AGND	—	Analog signal GND.
23	NC	—	No connection.
24	SP	O	Single ended output of the CV+ and CV– pin input signal.
25	SPG	I	Pin to which external spindle gain setting resistor in 12 cm mode is connected.
26	SP–	I	Pin to which external spindle phase compensation constants are connected together with SPD pin.
27	SPD	O	Spindle control signal output pin.
28	SLEQ	I	Pin to which external sled phase compensation constants are connected.
29	SLD	O	Sled control signal output pin.
30, 31	SL–, SL+	I	Sled advance signal input pin from microprocessor.
32, 33	JP–, JP+	I	Tracking jump signal input pin from DSP.
34	TGL	I	Tracking gain control signal input from DSP. Low gain when TGL = H.
35	TOFF	I	Tracking off control signal input pin from DSP. Off when TOFF = H.

Pin No.	Pin Name	I/O	Description
36	TES	O	Pin from which TES signal is output to DSP.
37	HFL	O	"High Frequency Level" is used to judge whether the main beam position is on top of bit or on top of mirror.
38	SLOF	I	Sled servo off control input pin.
39, 40	CV–, CV+	I	CLV error signal input pin from DSP.
41	RFSM	O	RF output pin.
42	RFS–	I	RF gain setting and EFM signal 3T compensation constant setting pin together with RFSM pin.
43	SLC	O	"Slice Level Control" is the output pin which controls the RF signal data slice level by DSP.
44	SLI	I	Input pin which control the data slice level by the DSP.
45	DGND	—	Digital system GND.
46	FSC	O	Output pin to which external focus search smoothing capacitor is connected.
47	TBC	I	"Tracking Balance Control" EF balance variable range setting pin.
48	NC	—	No connection.
49	DEF	O	Disc defect detector output pin.
50	CLK	I	Reference clock input pin. 4.23 MHz of the DSP is input.
51	CL	I	Microprocessor command clock input pin.
52	DAT	I	Microprocessor command data input pin.
53	CE	I	Microprocessor command chip enable input pin.
54	DRF	O	"Detect RF" RF level detector output.
55	FSS	I	"Focus Search Select" focus search mode (± search/+ search) select pin.
56	VCC2	—	Servo system and digital system Vcc pin.
57	REFI	—	Pin to which external bypass capacitor for reference voltage is connected.
58	VR	O	Reference voltage output pin.
59	LF2	I	Disc defect detector time constant setting pin.
60	PH1	I	Pin to which external capacitor for RF signal peak holding is connected.
61	BH1	I	Pin to which external capacitor for RF signal bottom holding is connected.
62	LDD	O	APC circuit output pin.
63	LDS	I	APC circuit input pin.
64	VCC1	—	RF system Vcc pin.

IC, LC78622E

Pin No.	Pin Name	I/O	Description	
1	DEFI	I	Defect sense signal (DEF) input pin. (Connect to 0V when not used).	
2	TAI	I	For PLL.	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
3	PDO	O		Phase comparator output pin to control external VCO.
4	VVSS	—		GND pin for built-in VCO. Be sure to connect to 0V.
5	ISET	I		Pin to which external resistor adjusting the PD0 output current.
6	VVDD	—		Power supply pin for built-in VCO.
7	FR	I		Pin for VCO frequency range adjustment.
8	VSS	—	Digital system GND. Be sure to connect to 0V.	
9	EFMO	O	For slice level control.	EFM signal output pin.
10	EFMIN	I		EFM signal input pin.
11	TEST2	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
12, 13	CLV+, CLK–	O	Disc motor control output. Three level output is possible using command.	
14	V/$\overline{P}$	O	Rough servo or phase control automatic selection monitoring output pin. Rough servo at H. Phase servo at L.	
15	HFL	I	Track detect signal input pin. Schmidt input.	
16	TES	I	Tracking error signal input pin. Schmidt input.	
17	TOFF	O	Tracking OFF output pin.	
18	TGL	O	Tracking gain selection output pin. Gain boost at L.	
19, 20	JP+, JP–	O	Track jump control signal output pin. Three level output is possible using command.	
21	PCK	O	EFM data playback clock monitoring pin 4.3218 MHz when phase is locked in.	
22	FSEQ	O	Sync signal detection output pin. H when the sync signal which is detected from EFM signal and thesync signal which is internally generated agree.	
23	VDD	—	Digital system power supply pin.	
24~28	CONT1~CONT5	I/O	General purpose input/output pin 1 to 5.	The pin is controlled by the serial data command from microprocessor. When the pin is not used, set the pin to the input terminal and connect to 0V, or alternately set the pin to output terminal and leave the pin open.
29	EMPH	O	De-emphasis monitor output pin. De-emphasis disc is being played back at H.	
30	C2F	O	C2 flag output pin.	
31	DOUT	O	DIGITAL OUT output pin. (EIAJ format).	
32, 33	TEST3, TEST4	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.	
34	N.C.	—	Not used. Set the pin to open.	
35	MUTEL	O	L-channel 1-bit DAC.	L-channel mute output pin.
36	LVDD	—		L-channel power supply pin.
37	LCHO	O		L-channel output pin.
38	LVSS	—		L-channel GND. Be sure to connect to 0V.
39	RVSS	—	R-channel 1-bit DAC.	R-channel GND. Be sure to connect to 0V.
40	RCHO	O		R-channel output pin.
41	RVDD	—		R-channel power supply pin.
42	MUTER	O		R-channel mute output pin.

Pin No.	Pin Name	I/O	Description
43	XVDD	—	Crystal oscillator power supply pin.
44	XOUT	O	Pin to which external 16.9344 MHz crystal oscillator is connected.
45	XIN	I	
46	XVSS	—	Crystal oscillator GND pin. Be sure to connect to 0V.
47	SBSY	O	Subcode block sync signal output pin.
48	EFLG	O	C1, C2, single and dual correction monitoring pin.
49	PW	O	Subcode P, Q, R, S, T, U and W output pin.
50	SFSY	O	Subcode frame sync signal output pin. Falls down when subcode enters standby.
51	SBCK	I	Subcode read clock input pin. Schmidt input. (Be sure to connected to 0V when not in use.)
52	FSX	O	Pin outputting the 7.35 kHz sync signal which is generated by dividing frequency of crystal oscillator.
53	WRQ	O	Subcode Q output standby output pin.
54	RWC	I	Read/write control input pin. Schmidt input.
55	SQOUT	O	Subcode Q output pin.
56	COIN	I	Command input pin from microprocessor.
57	$\overline{\text{CQCK}}$	I	Command input read clock or subcode read input clock from SQOUT pin
58	$\overline{\text{RES}}$	I	LC78622 reset input pin. Set this pin to L once when the main power is turned on.
59	TST11	O	Test signal output pin. Use this pin as open (normally L output).
60	16M	O	16.9344 MHz output pin.
61	4.2M	O	4.2336 MHz output pin.
62	TEST5	I	Test signal input pin with built-in pull-down resistor. Be sure to connect to 0V.
63	$\overline{\text{CS}}$	I	Chip select signal input pin with built-in pull-down resistor. Be sure to connect to 0V while it is not controlling.
64	TEST1	I	Test signal input pin without built-in pull-down resistor. Be sure to connect to 0V.

Note: The same potential must be applied to the respective power supply terminals. (VDD, VVDD, LVDD, RVDD, XVDD)

TEST MODE

1. CDテストモードの起動方法
ファンクションCDの釦を押しながら、ACプラグを挿入する。
上記によりFL表示管が全て点灯し、テストモードが起動します。

2. CDテストモードの解除方法
下記のいずれか1つの操作で解除します。
- ファンクション釦を押す（CDファンクション釦以外）
- パワーSW釦を押す。
- ACプラグを抜く。

3. CDテストモードの機能説明
テストモード起動後、各操作釦を押す事により次のNo1～No5の各モード機能が使用できます。

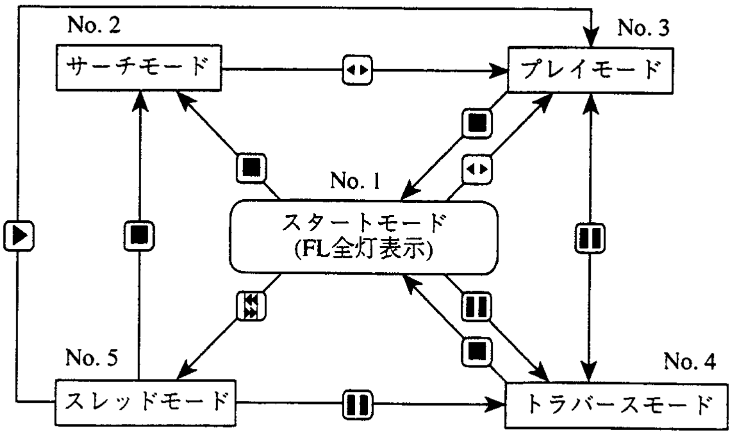
Mode/No.	操作	FL表示	動作	内容
スタートモード No.1	起動	全灯表示	● TEST MODE起動 ● CDブロック電源ON	● FL表示確認（全灯）
サーチモード No.2	■釦	CD--	● LASER DIODE常時発光 ● 連続フォーカスサーチ (PUレンズがフルスイングを繰り返す) * 10分以上の連続フォーカスは避けて下さい。 *注1	● APC回路確認 ● レーザー電流測定 (レーザー電流コントロール、トランジスタのエミッターGND間の抵抗の両端。) FOCUS SERVO ● フォーカスラッチ波形確認 ● フォーカスエラー波形確認 (サーチモードではFOK/FZCは監視せず。)
プレイモード No.3	◀▶釦	CD 1	● 通常再生 ● TOC READ出来ない場合 フォーカスサーチを続行 *注1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO DRF確認
トラバースモード No.4	▮▮釦	CD 1	● DISC通常再生中 1回押す トラッキングサーボOFF 2回押す トラッキングサーボON *注2	TRACKING SERVO ON/OFF トラッキングバランス (トラバース) 確認
スレッドモード No.5	⏮釦 ⏭	全灯表示	● ピックアップ外周へ移動 ● ピックアップ内周へ移動 *注3 (再生中は通常動作致します)	SLED SERVO SLEDメカ動作確認

*注1 フォーカスサーチを連続して10分以上動作し続けるとドライバーICが発熱し保護回路が働く為、トラッキングサーボがかからない状態となる場合が有ります。この様な場合には、電源を切り約10分間放熱後、再スタートして下さい。

*注2 「▮▮」状態で、「⏮」または「⏭」釦を押さない事。「▮▮」状態解除後、再生出来なくなります。「▮▮」状態で、「⏮」または「⏭」釦を押した場合には「■」釦を押しスタートモード(No.1)に戻して下さい。

*注3 ピックアップが最内周、最外周の位置でも「⏮」または「⏭」釦を押している間はスレッドモータが回転する為、ギヤ破損に注意して下さい。

4. 操作概要
下図の様にスタートモードから、矢印方向の流れで各モードの操作が行えます。モード変更は、下図の流れに従い行って下さい。



尚、DISC DIRECT PLAY釦を押した場合には、上図のPLAY釦を押した時と同様の動作となります。またプレイモード／トラバースモード時にopen/close釦により、トレイをopenさせた場合には、スタートモードに戻ります。

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

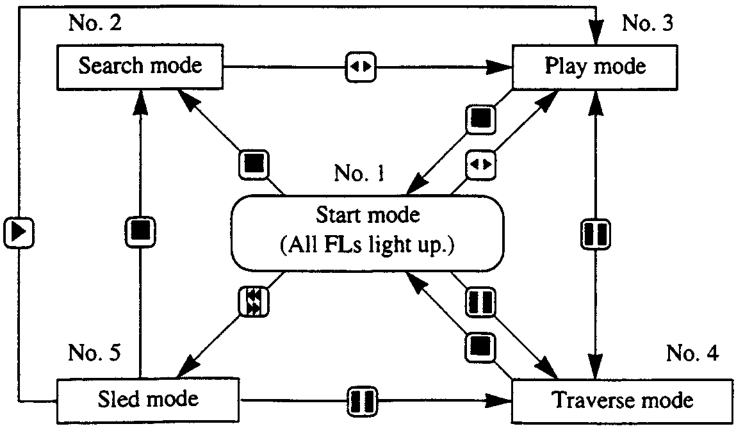
2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	All lamps light	• Test mode is activated. • CD block power is ON.	• FL display check (All displays light.)
Search mode No.2	■ key	CD--	• Laser diode turns always ON. • Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	• APC circuit check • Laser current measurement (Laser current control. Across a resistor connected between emitter and GND.) FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◀▶ key	CD11	• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check DRF
Traverse mode No.4	❚❚ key	CD11	• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) check
Sled mode No.5	⏮ key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

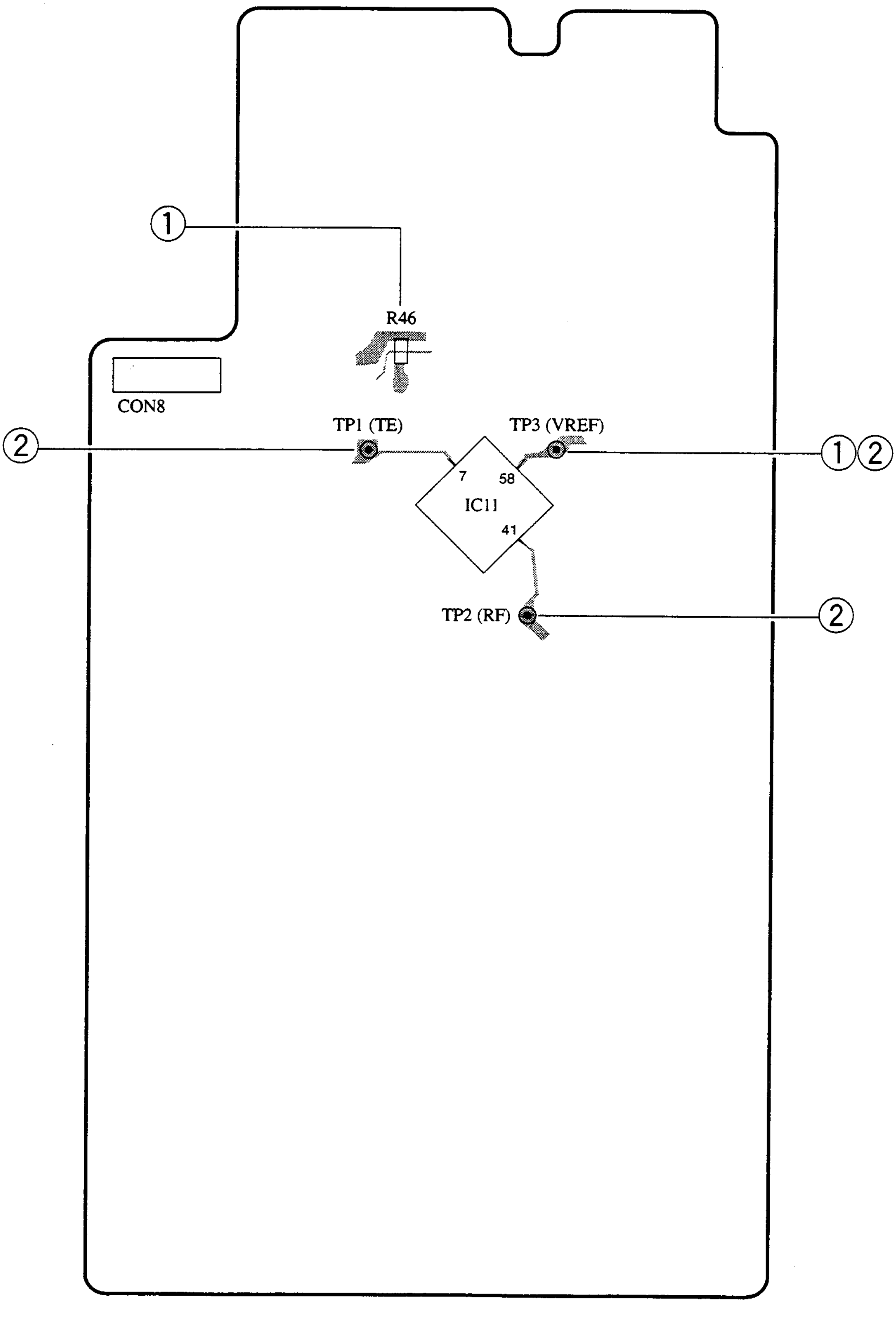
* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.
* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ❚❚ status, press the ■ key and return to the start mode (No.1).
* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



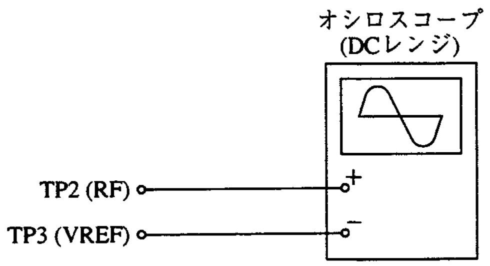
If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

A 3CD C.B (PATTERN SIDE)

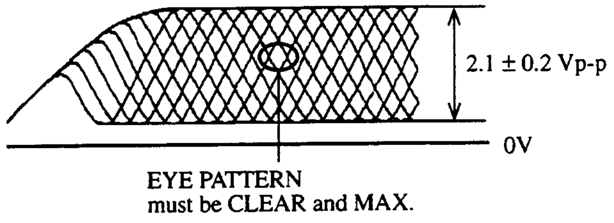

①
R46
CON8
②
TP1 (TE)
TP3 (VREF)
①②
7
58
IC11
41
TP2 (RF)
②

注意：
- (10：1) のプローブを接続して、調整して下さい。
- 各調整には、オシロスコープの⊖側を TP3 (VREF) に接続して下さい。

1. RF 波形の確認

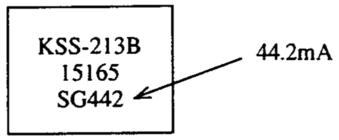

オシロスコープ
(DCレンジ)
TP2 (RF)
TP3 (VREF)
+
−

1) テストポイント TP2 (RF)、TP3 (VREF) にオシロスコープを接続する。
2) POWER スイッチを ON にする。
3) テストディスク TCD-782 (YEDS-18) を入れて 2 曲目を PLAY させる。
4) オシロスコープの波形の振幅が 2.1 Vp-p となり、かつ中央のひし形が、鮮明である事を確認する。


2.1 ± 0.2 Vp-p
0V
EYE PATTERN
must be CLEAR and MAX.

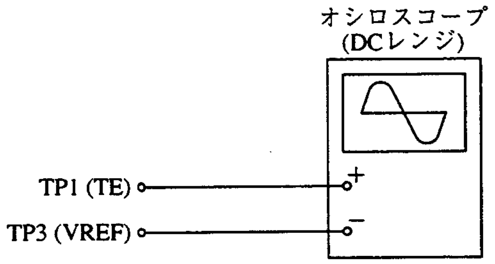
VOLT/DIV：50mV
TIME/DIV：0.5 μS

注意： レーザー電流の確認は R46 (10 Ωの両端電圧) で行えます。レーザーピックアップの裏側のラベルの電流値に対して± 6.0mA に入っていること。

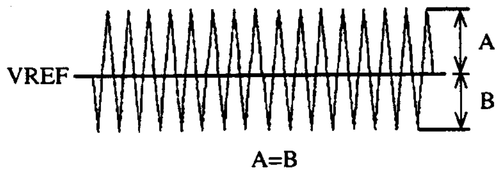

KSS-213B
15165
SG442
44.2mA

$$\text{レーザー電流Iop} = \frac{\text{R46の両端電圧}}{10\Omega}$$

2. トラッキング・バランス確認


オシロスコープ
(DCレンジ)
TP1 (TE)
TP3 (VREF)
+
−

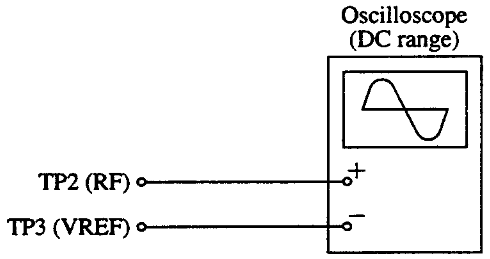
1) テストポイント TP1 (TE)、TP3 (VREF) にオシロスコープを接続する。
2) CD テストモードを起動する。
3) テストディスク TCD-782 (YEDS-18) を入れて、CD テストモードのトラバースモードにする。
4) オシロスコープのトラバース波形が、下図のように上下対称である事を確認する。
5) 確認後、CD テストモードを解除する。



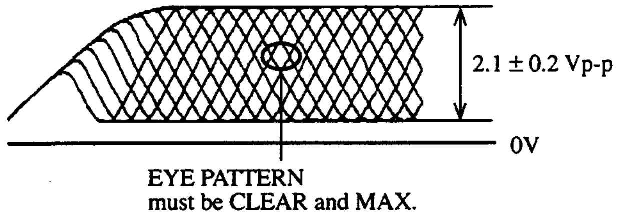
VOLT/DIV：20mV
TIME/DIV：1mS

Note:
- Connect a probe (10: 1) of the oscilloscope or the frequency counter to a test point.
- During adjustment, connect (⊖) pin of an oscilloscope to TP3 (VREF).

1. RF waveform Check

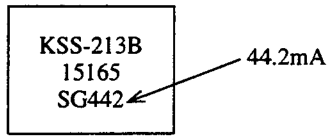

Oscilloscope
(DC range)
TP2 (RF)
TP3 (VREF)
+
−

1) Connect an oscilloscope to test points TP2 (RF) and TP3 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second program.
4) Confirm that the waveform at oscilloscope has amplitude of 2.1 Vp-p, and clear wedge area in its center.


2.1 ± 0.2 Vp-p
0V
EYE PATTERN
must be CLEAR and MAX.

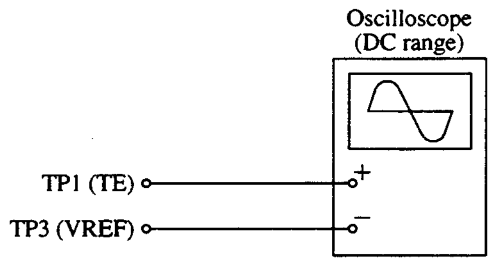
VOLT/DIV: 50mV
TIME/DIV: 0.5µS

Note: The current of the laser signal can be checked with the voltages on both sides of R46 (voltage across 10Ω).
The difference for the specified value shown on the label must be within ± 6.0mA.

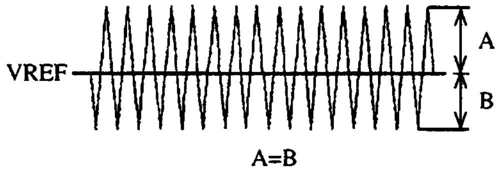

KSS-213B
15165
SG442
44.2mA

$$\text{Laser current Iop} = \frac{\text{Voltage across R46}}{10\Omega}$$

2. Tracking Balance Check

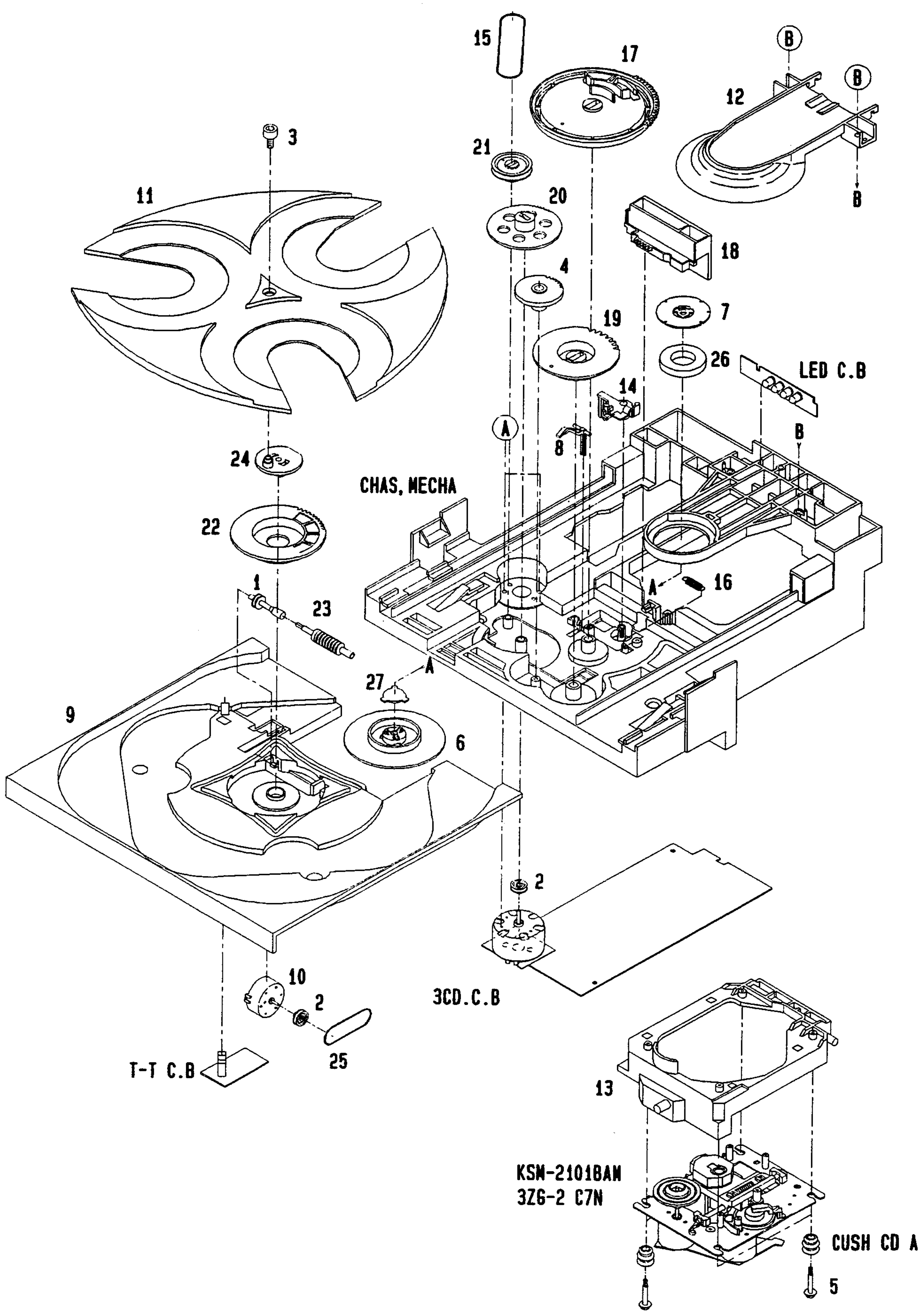

Oscilloscope
(DC range)
TP1 (TE)
TP3 (VREF)
+
−

1) Connect an oscilloscope to test points TP1 (TE) and TP3 (VREF).
2) Start up the CD test mode.
3) Insert the test disc TCD-782(YEDS-18) and enter the traverse mode of the CD test mode.
4) Confirm that the traverse waveform on an oscilloscope is vertically symmetrical as shown in the figure below.
5) After confirming the waveform, release the CD test mode.



VOLT/DIV: 20mV
TIME/DIV: 1mS

MECHANICAL EXPLODED VIEW 1／1

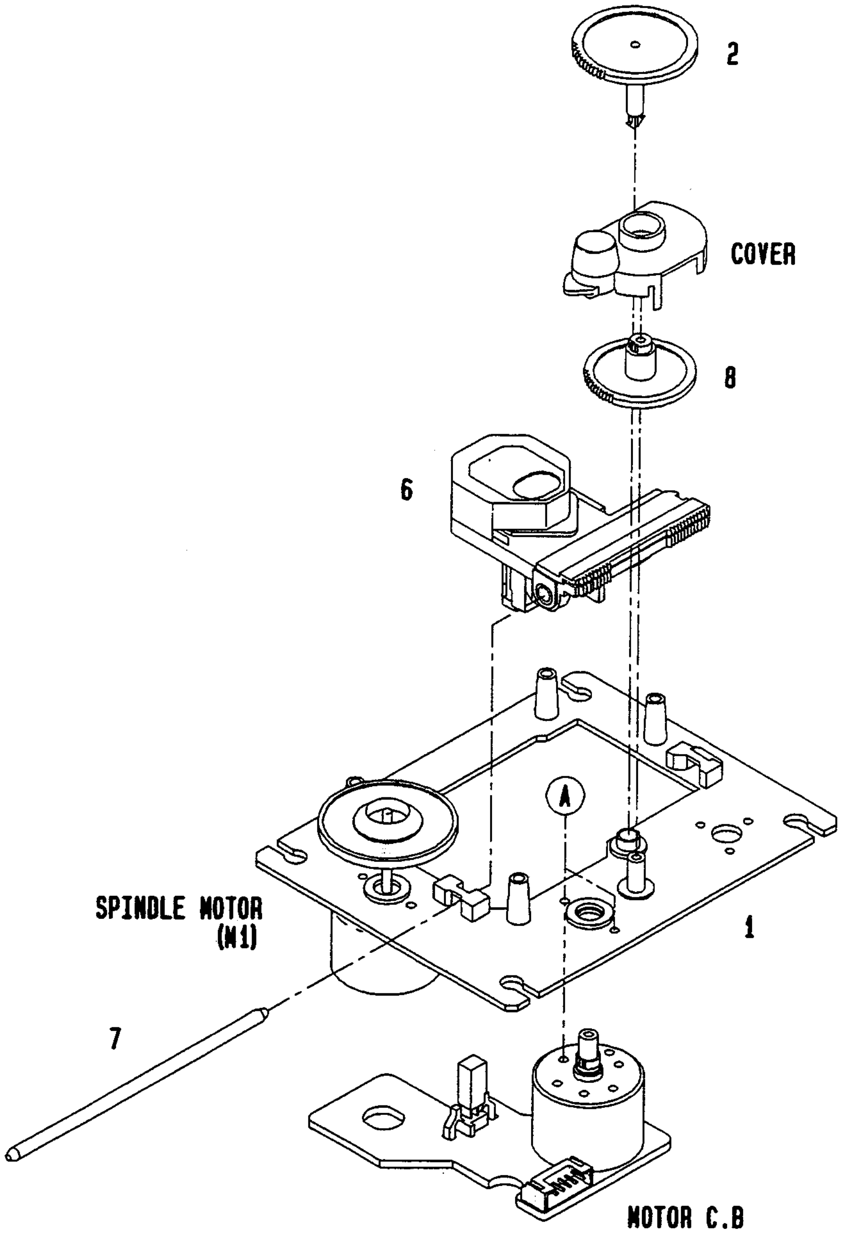


MECHANICAL PARTS LIST 1／1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	84-ZG1-239-110	1A	PULLY,WORM N
2	81-ZG1-212-010	0E	PULLY,LOAD MO
3	81-ZG1-239-010	0E	S-SCREW,TT
4	81-ZG1-291-010	0E	GEAR,TRAY RELAY NO3
5	81-ZG1-271-010	0E	S-SCREW,MECH REAR
6	81-ZG1-277-210	1A	HLDR,MAGNET N
7	81-ZG1-229-110	0E	PLATE,MAGNET<1MD,1D>
7	81-ZG1-255-110	0E	PLATE,MAGNET MK2<1DM,2DM>
8	83-ZG3-213-010	0E	LVR,SW
9	84-ZG1-003-210	1M	TRAY,NO2-B
10	87-045-364-010	1D	MOTOR,(BCH3B14)
11	84-ZG1-005-110	1C	TURNTABLE,NO1
12	84-ZG1-011-010	1A	REFLECTOR,CD
13	84-ZG1-212-110	1A	HLDR,MECHA NO2
14	84-ZG1-208-010	0E	LEVER,CAM
15	84-ZG1-209-010	0E	BELT,SQ1.8-117.7
16	84-ZG1-211-010	0E	SPR-E CAM S
17	84-ZG1-215-210	1B	GEAR,MAIN CAM BLU
18	84-ZG1-216-210	1A	SLIDE,MECHA CAM YEL
19	84-ZG1-205-110	1A	GEAR,TRAY
20	84-ZG1-206-110	0E	GEAR,RELAY
21	84-ZG1-207-010	0E	PULLY,RELAY
22	84-ZG1-221-010	1A	GEAR,MAIN TT
23	84-ZG1-238-010	1A	GEAR,WORM N
24	84-ZG1-224-010	0E	LEVER,TT
25	84-ZG1-225-010	0E	BELT,SQ1.0-63.3
26	87-036-326-010	0E	MAGNET,CLAMPER 93<1MD,1D,1DM>
26	83-ZG3-602-010	0E	RING,MAG<2DM>
27	84-ZG1-248-010	0E	SPR-C,WORM
A	87-251-070-410	0E	U+2.6-3
B	87-067-703-010	0E	BVT 2+3-10 W/O SLOT

CD MECHANISM EXPLODED VIEW 1／1 (KSM-2131BAM <1D, 1MD>)

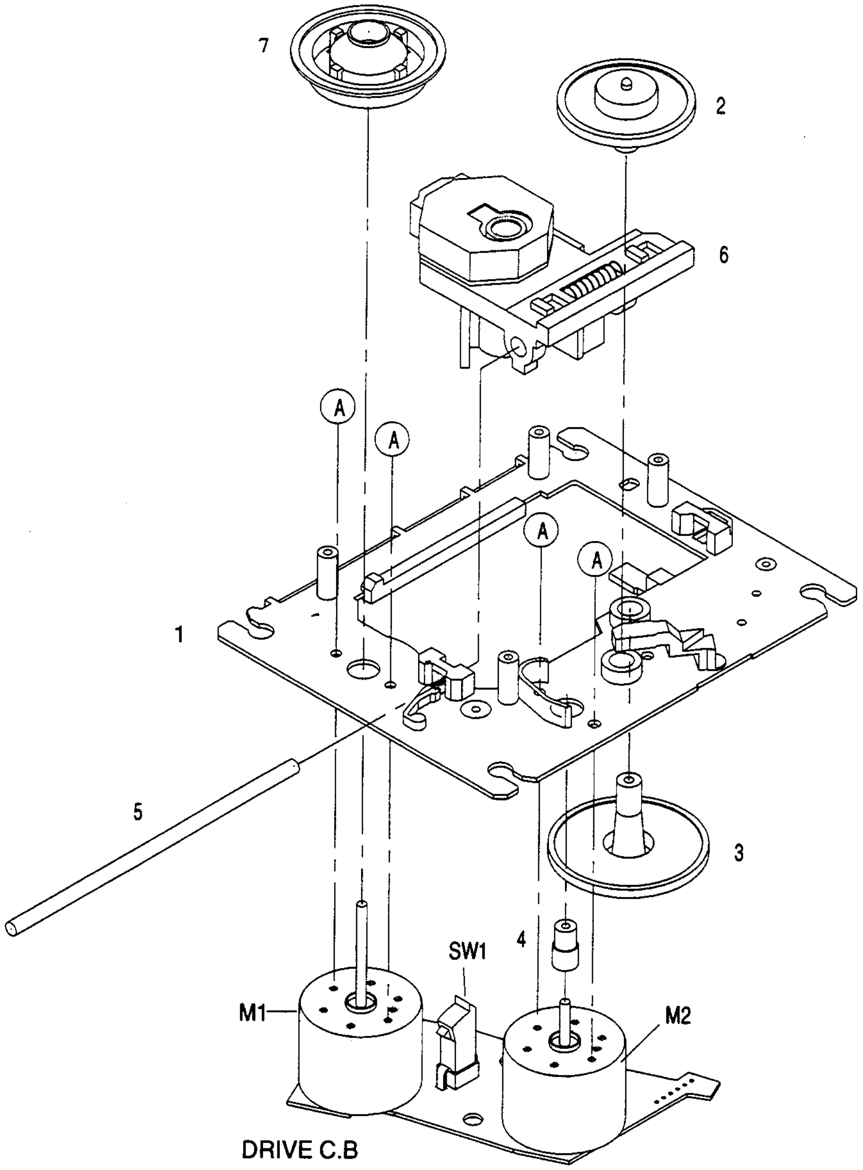


CD MECHANISM PARTS LIST 1／1 (KSM-2131BAM <1D, 1MD>)

DESCRIPTIONで判断できない物は “REFERENCE NAME LIST” を参照してください。
If can't understand for Description please kindly refer to “REFERENCE NAME LIST”.

REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	9X-262-587-110	--	MOTOR CHASSIS ASSY	A	97-621-255-150	0E	SCREW+P2-3
2	92-626-907-010	--	GEAR(A)				
6	98-848-379-310	--	OPTICAL PICK UP KSS-213B				
7	92-626-908-010	2A	SHAFT SLED				
8	92-627-003-010	--	GEAR B				

CD MECHANISM EXPLODED VIEW 1／1 (3ZG-2 C7N <2D>)



CD MECHANISM PARTS LIST 1／1 (3ZG-2 C7N <2D>)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	カンリ NO.	DESCRIPTION	REF. NO	PART NO.	カンリ NO.	DESCRIPTION
1	83-ZG2-202-71K	1C	O-SERT S ASSY,S	5	83-ZG2-207-119	1A	SHAFT,SLIDE
2	83-ZG2-204-419	0E	GEAR,A	6	87-070-445-010	2C	PICK-UP,KSS-213B
3	83-ZG2-205-219	0E	GEAR,B	7	83-ZG2-233-019	1B	TURN TABLE,A5
4	83-ZG2-220-01K	0E	GEAR,MOTOR 2	A	87-261-032-219	0E	SCREW V+2-3

USE MODEL LIST

CX-NA92 (NSX-A92)
CX-NMT90 (NSX-MT90)
CX-NAV95 (NSX-AV95)
CX-NA71 (NSX-A71)
CX-NMT70 (NSX-MT70)
CX-NAV85 (NSX-AV85)
CX-NA50 (NSX-A50)
CX-NS50 (XG-S50)
CX-NA51 (NSX-A51)
CX-NS52 (NSX-S52)
CX-NMT50 (NSX-MT50)
CX-NAV75 (NSX-AV75)
CX-NK550 (NSX-K550)
CX-NH50 (XR-H5MD)
CX-NA30 (NSX-A30)
CX-NS30 (XG-S30/NSX-S30)
CX-NA31 (NSX-A31)
CX-NA34 (NSX-A34)
CX-NS33
CX-NS32
CX-NS35
CX-NA35
CX-NS36
CX-NAV65 (NSX-AV65)
CX-NAV66 (NSX-AV66)
CX-NH3MD (XR-H3MD)

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER
サージサプレッサ	SERGESUPPRESSOR
セラコン	CAP,CERA

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL
ジグアーム	ARM,SHAFT
ジグガイド	GUIDE,SHAFT
ストラップ	STRAP
トクナベ	S-SCREW
ヒンジ	HINGE
ヒンジビス	S-SCREW
ビスセレート	SCREW,SERRART

サービス技術ニュース	
番号	連絡内容
G－ －	
G－ －	
G－ －	

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AIWA CO.,LTD.

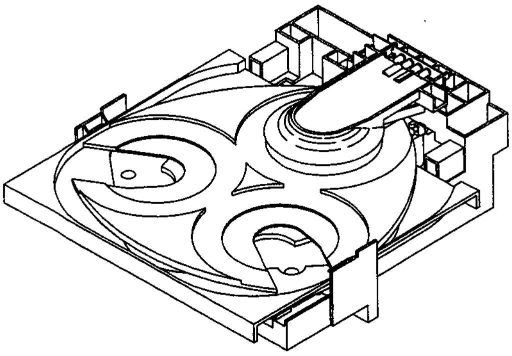
Tokyo Japan

〒110 東京都台東区池之端1－2－11 ☎ 03 (3827) 3111 （代表）

aiwa

aiwa SERVICE

4ZG-1Z



CD MECHANISM

- BASIC CD MECHANISM: KSM-2131 BAM / 3ZG-2 C7
- TYPE: English,Japanese

SERVICE MANUAL

CORRECTION

BASIC NAME	DERIVATION NAME					
4ZG-1Z	1D	2D	1MD	–	–	–

- ■ This Service Manual is replaces "CORRECT Manual"(S/M Code No.09-973-187-50T).
- ■ 本体マニュアルは(S/M Code No.09-973-187-50T)の訂正版です。

S/M Code No. 09-984-270-60T

- “このサービスマニュアルにはCDメカニズムの説明は含まれていません。CDメカニズムについては4ZG-1 (S/M Code No...........) のマニュアルを参照して下さい。” の別冊マニュアルの使用文のS/M Code Noに誤りがあります。

  (正) 09-973-187-50T ← (誤) 09-974-187-50T

  下記の機種の別冊メカニズムは09-973-187-50Tを使用又は取得をして下さい。

- “The CD mechanism description is not included in this Service Manual. Refer to 4ZG-1 (S/M Code No. ....) for description of CD mechanism.” Please correct the S/M Code No. as shown below as there was mistake in the description of separate manual.

  (Correct) 09-973-187-50T ← (Error) 09-974-187-50T

  Please obtain and use the separate manual using the Code No. 09-973-187-50T.

1. 09-978-216-8FE (NSX-S50)
2. 09-978-220-4FE (NSX-AV75)
3. 09-978-195-5FP (NSX-AV96)
4. 09-978-220-3FE (NSX-AV75)
5. 09-973-182-5FP (NSX-A71/S70/S74)

6. 09-975-193-5FP (NSX-S70/S74)
7. 09-974-181-9FP (NSX-A92/A94/S90/S94)
8. 09-974-160-3FE (NSX-A30/A31/S33)
9. 09-976-181-6FE (NSX-AV65/AV66)
10. 09-976-186-6FP (NSX-MT70/MT75/AV85)

11. 09-976-207-0FP (NSX-A72/A74)
12. 09-977-190-4FP (NSX-S90)
13. 09-976-181-5FE (NSX-S30/S32/S33/S35/S36)
14. 09-977-202-7FE (NSX-S22/A22)
15. 09-976-188-4FE (NSX-AV75/NMT50/NMT55)

16. 09-977-181-7FP (NSX-AV95)
17. 09-978-206-6FP (NSX-AV85)
18. 09-978-215-8FE (NSX-S22/S23/XG-S22)
19. 09-978-220-2FE (NSX-S52)
20. 09-977-212-8FE (XG-550/NSX-S52)

21. 09-978-181-4FE (NSX-S32/S33/S36/S37)
22. 09-978-213-4FP (NSX-S74)
23. 09-979-222-5FE (NSX-S22)
24. 09-979-214-1FP (NSX-S94/S95)
25. 09-979-219-1FP (NSX-S90)

26. 09-979-225-2FE (NSX-A66)
27. 09-97A-222-7FE (NSX-S38)

お詫び

09-983-257-90Tで発行したCORRECTIONの表現方法は誤解を生じる為、廃棄して下さい。

Notice

Please discard the CORRECTION issued under 09-983-257-90T in order to avoid the expression which can cause misleading.

サービス技術ニュース	
番号	連絡内容
G― ―	
G― ―	
G― ―	

アイワ株式会社
AIWA CO.,LTD.

912162

Tokyo Japan

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Printed by: Schaltungsdienst Lange Berlin (Germany)

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AIWA -02607

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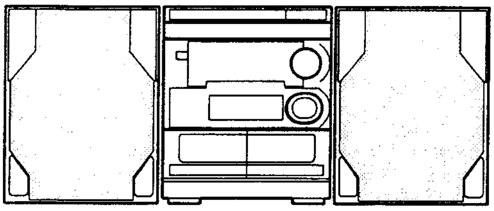
SERVICE

NSX-S50



COMPACT DISC STEREO
CASSETTE RECEIVER

- BASIC TAPE MECHANISM : 2ZM-3MK2 PR4NM
- BASIC CD MECHANISM : 4ZG-1 Z1DNM

- TYPE : G

SUPPLEMENT

SYSTEM	CD – CASSEIVER	SPEAKER
NSX–S50	CX – NS50	SX – FNS50

- This Service Manual contains information about the difference between NSX-S50(G) and NSX-S50 (K). If requiring the other information, see Service Manual of NSX-S50/S52 (EZ,K,V).(S/M Code No 09-976-199-6FE) 2466#2039112
- If requiring information about the CD mechanism, see Service Manual of 4ZG-1, S/M Code No. 09-974-187-50T. V13295#2640013

2607

S/M Code No. 09–978–216–8FE

SERVICE MANUAL

SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity (IHF)	16.8 dBf
Antenna terminals	75 ohms (unbalanced)

<MW Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 µV/m
Antenna	Loop antenna

<LW Tuner section>

Tuning range	144 kHz ~ 290 kHz
Usable sensitivity	1400 µV/m
Antenna	Loop antenna

<Amplifier section>

Power output	Rated : 60 W + 60 W (6 ohms, T.H.D. 1 %, 1 kHz/DIN 45500) Reference : 75 W + 75 W (6 ohms, T.H.D. 10 %, 1 kHz/DIN 45324) *without connecting to the SURROUND SPEAKERS
Total harmonic distortion	0.05 % (50 W, 1 kHz, 6 ohms, DIN AUDIO)
Inputs	VIDEO/AUX : 150 mV (adjustable) MD : 150 mV (adjustable) MIC 1, MIC 2 : 1.0 mV (10 kohms)
Outputs	LINE OUT : 200 m V SUPER WOOFER : 1.9 V SPEAKERS: accept speakers of 6 ohms or more SURROUND SPEAKERS : accept speakers of 16 ohms or more PHONES (stereo jack) : accepts headphones of 32 ohms or more

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO2 tape : 50 Hz - 16000 Hz Normal tape : 50 Hz -15000 Hz
Recording system	AC bias
Heads	Deck 1 : Playback head x 1 Deck 2 : Recording/playback/ erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	85 dB (1 kHz, 0 dB)
Harmonic distortion	0.05% (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX–FNS50>

Cabinet type	3 way, bass reflex with surround speaker (magnetic shielded type)
Speakers	Woofer : 160 mm cone type Tweeter : 80 mm cone type Super tweeter : 20 mm ceramic type Surround speaker : 80 mm
Impedance	Front speaker : 6 ohms Surround speaker : 16 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	250 x 304 x 288 mm
Weight	3.6 kg

<General>

Power requirements	230 V AC, 50Hz
Power consumption	110 W
Dimensions of main unit (W x H x D)	260 x 309 x 346 mm
Weight of main unit	6.5 kg

- Design and specifications are subject to change without notice.
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- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
  "DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
MAIN C.B			
C750	87-012-156-080		C-CAP,S 220P-50 J CH
C751	87-010-314-080		C-CAP,S 22P-50 J CH
FFE801	A8-6ZA-191-030		6ZA-1 FEENM

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NF6-904-019		IB,G(E)M

SPEAKER PARTS LIST (SX-FNS50<YST>)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NS6-001-019		PANEL,FR
2	87-NS6-002-019		PANEL,BA
3	87-NS6-004-019		HLDR,SQ
4	86-NS5-606-019		SPKR,80
5	85-NS6-611-019		SPKR,CORD Y/B
6	87-NS4-611-019		SPKR,CORD
7	87-NS6-007-019		GRILLE,FRAME ASSY
8	87-NS5-602-019		SPKR,W 160
9	86-NSA-610-019		SPKR,T 60H
10	87-NS4-610-019		SPKR,CODE Y/B
11	87-NS6-601-019		SPKR,CORD

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

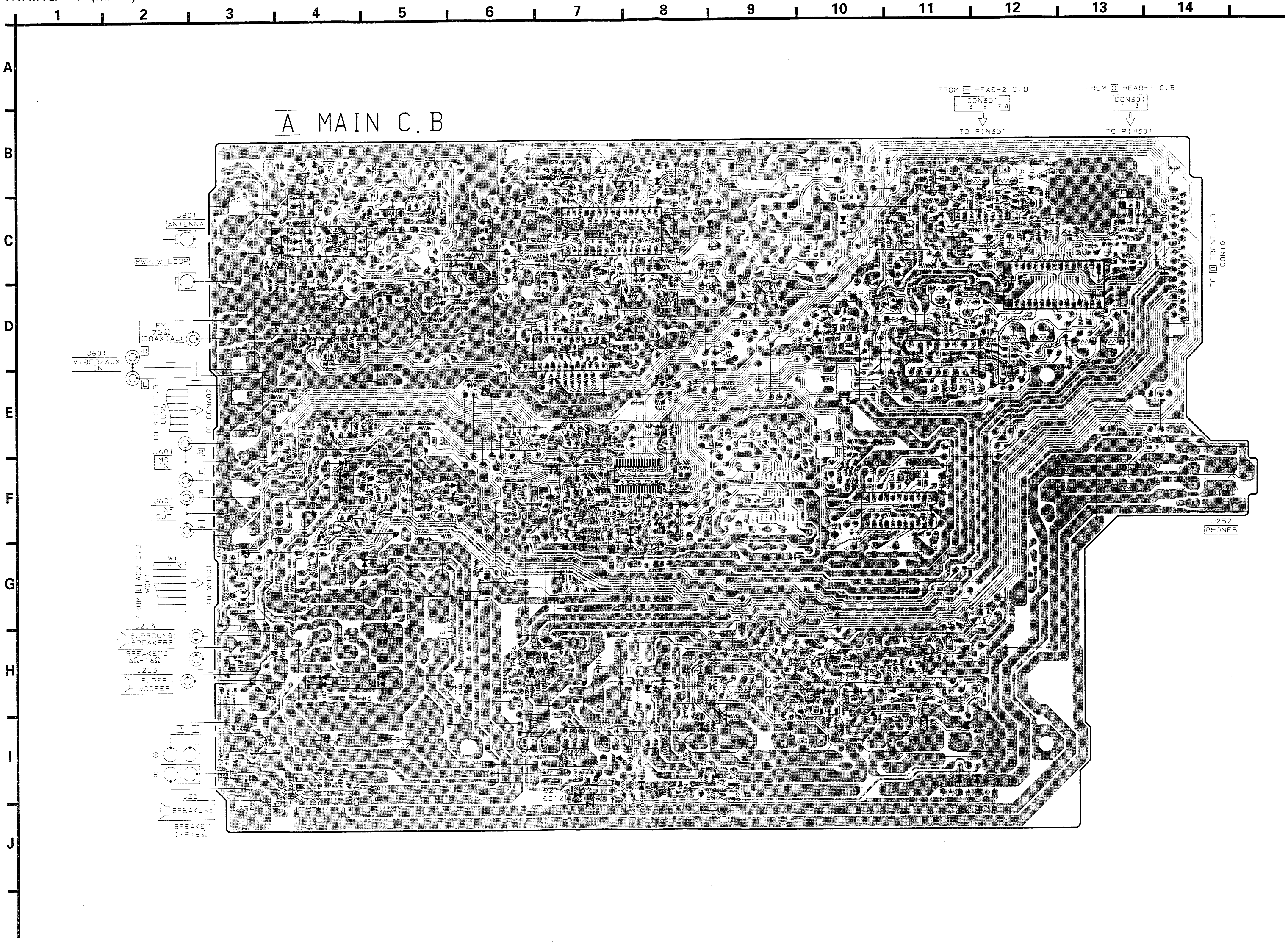
<FM SECTION>

IHF Sensitivity :	6dB ± 6dB
S/N 26dB	[at 87.5 / 98.0MHz/ 108.0MHz]
Distortion :	MONO Less than 1.3% [at 98.0MHz]

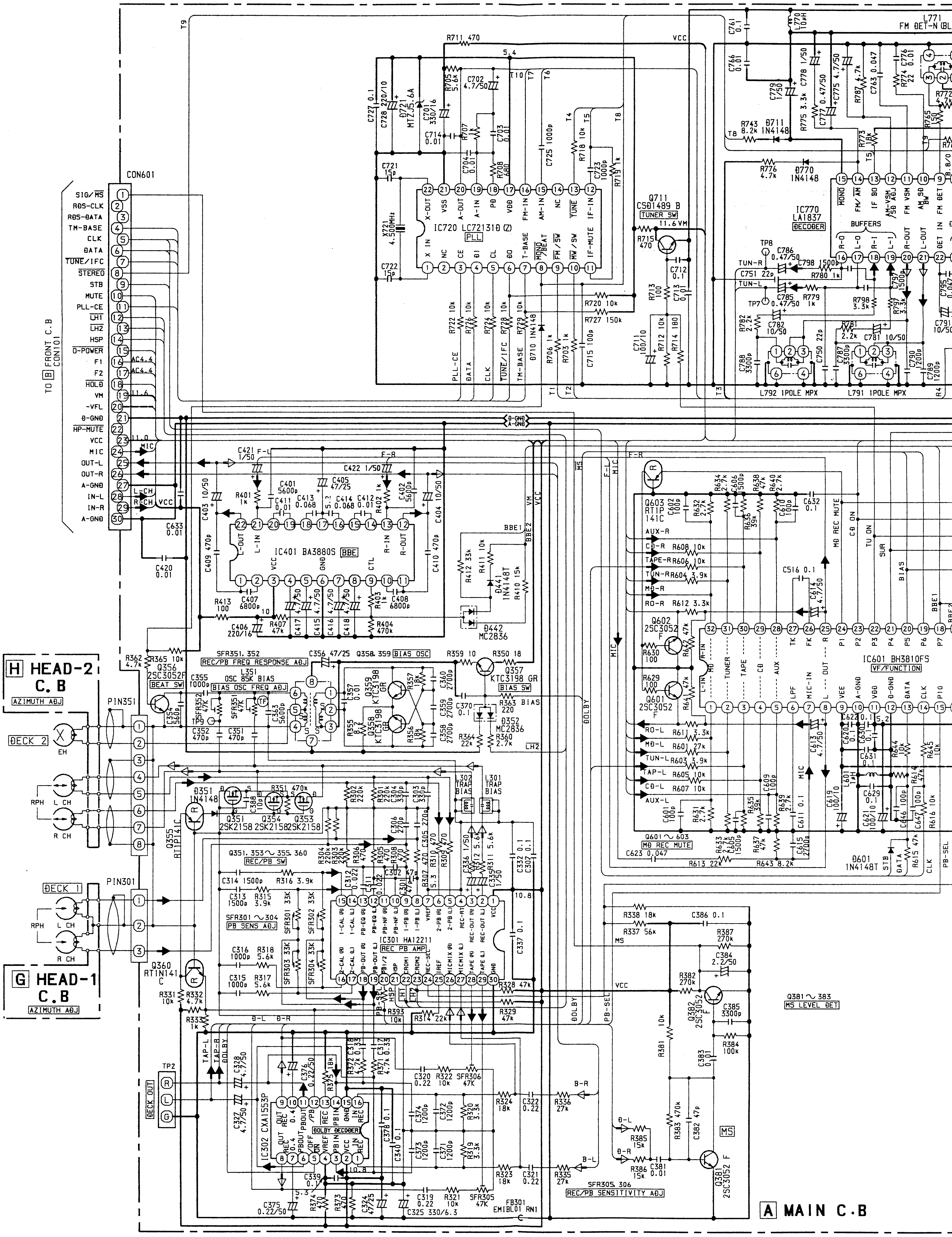
<MW SECTION>

Sensitivity : (S/N 20 dB)	55dB ± 5dB [at 603kHz] 53dB ± 5dB [at 999 / 1404kHz]
Signal to noise ratio :	MONO More than 36dB [at 999 kHz]
Distortion :	STEREO Less than 4.0% MONO Less than 1.5% [at 999kHz]

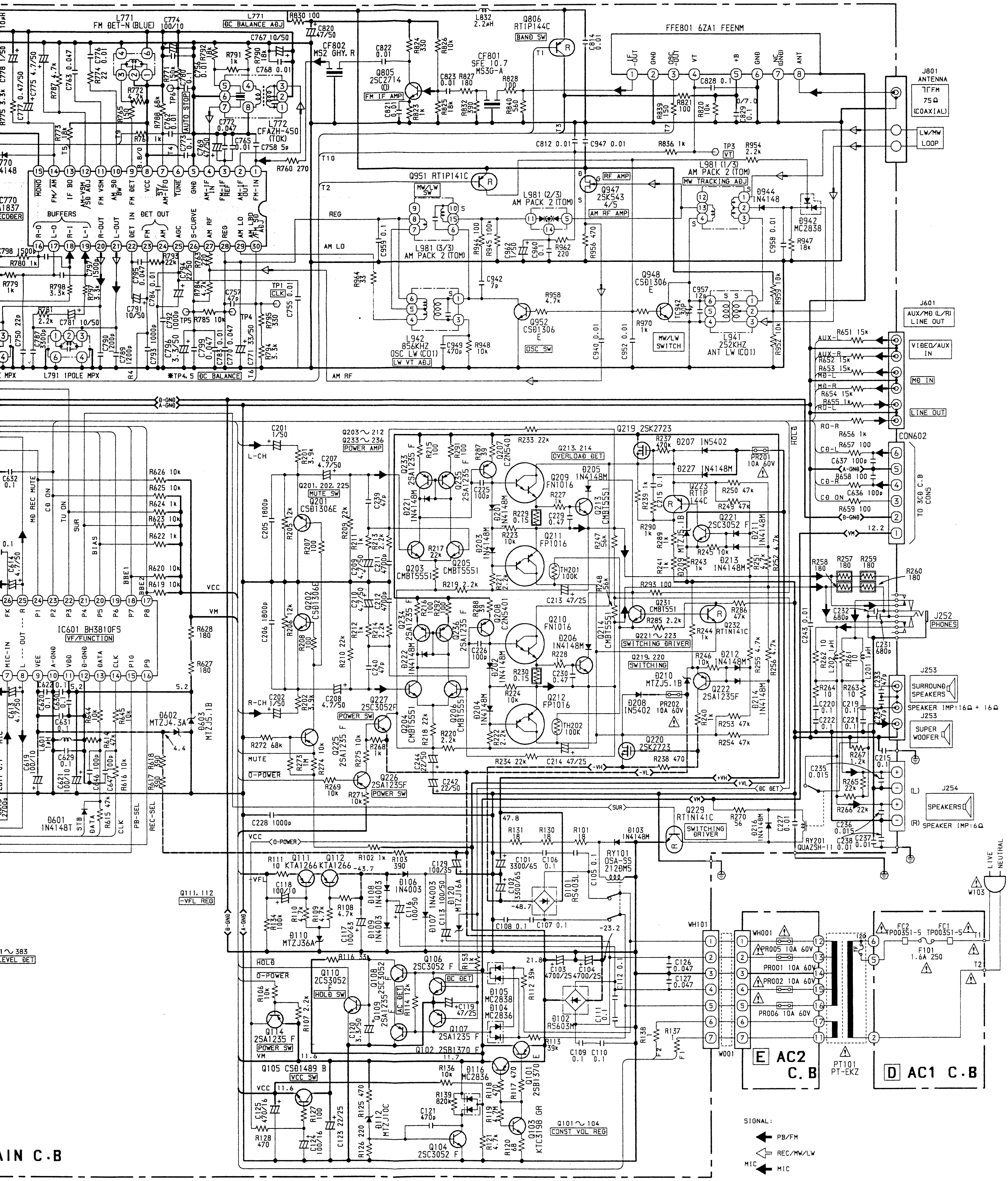
WIRING – 1 (MAIN)


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
I
J
A MAIN C.B
FROM H HEAD-2 C.B
CON351
1 3 5 7 8
TO PIN351
FROM G HEAD-1 C.B
CON301
1 3
TO PIN301
TO B FRONT C.B CON101
J801
ANTENNA
MW/LW LOOP
FM 75Ω (COAXIAL)
J601
VIDEO/AUX IN
R
L
TO 3 CD C.B CON5
TO CON602
J601
MD IN
J601
LINE OUT
FROM E AC2 C.B W001
W1
BLK
TO W1101
J253
SURROUND SPEAKERS
SPEAKERS 6Ω~16Ω
J253
SUPER WOOFER
⊕
⊖
J254
SPEAKERS
SPEAKER IMP: 6Ω
J252
PHONES
J254

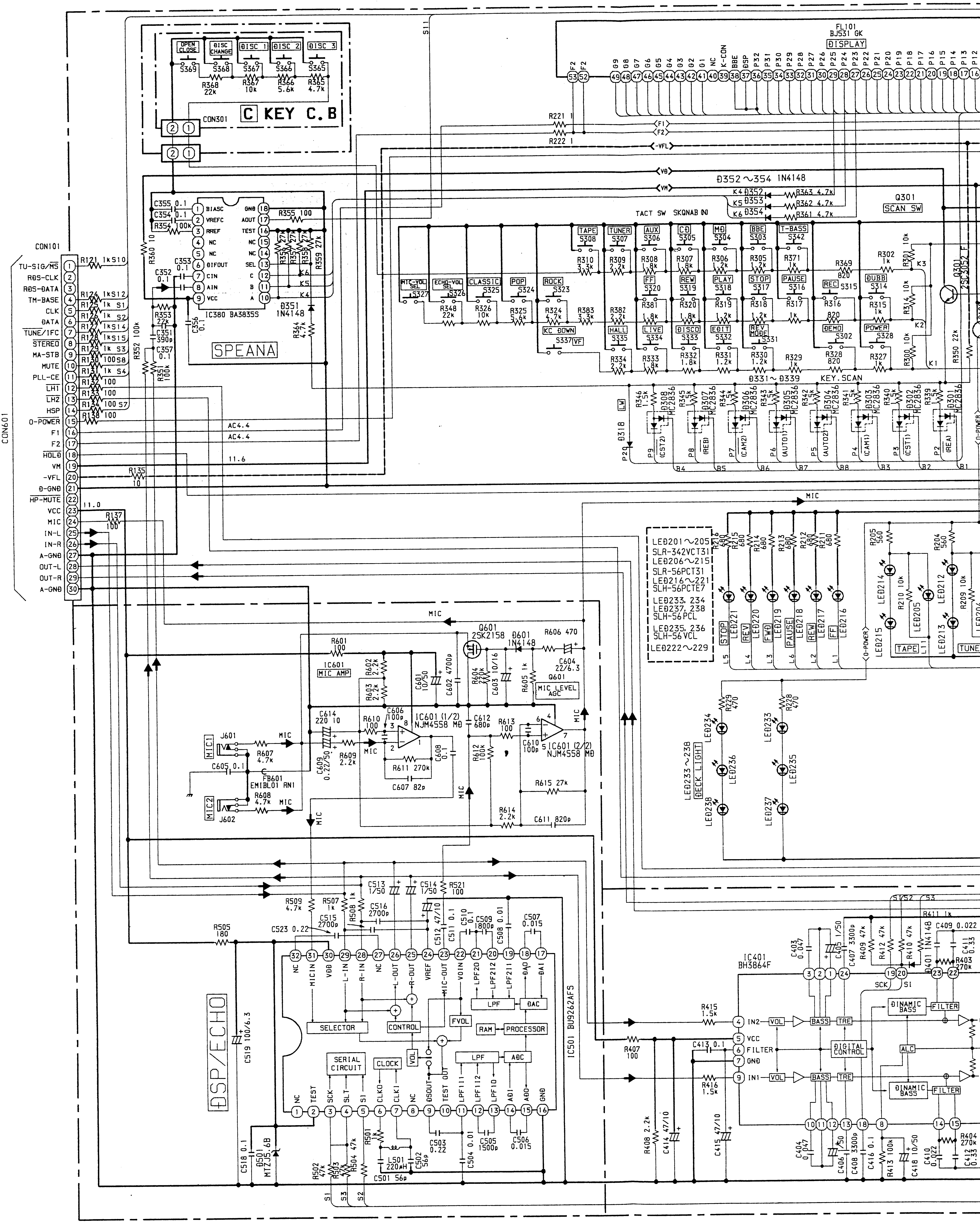
SCHEMATIC DIAGRAM – 1 (MAIN)

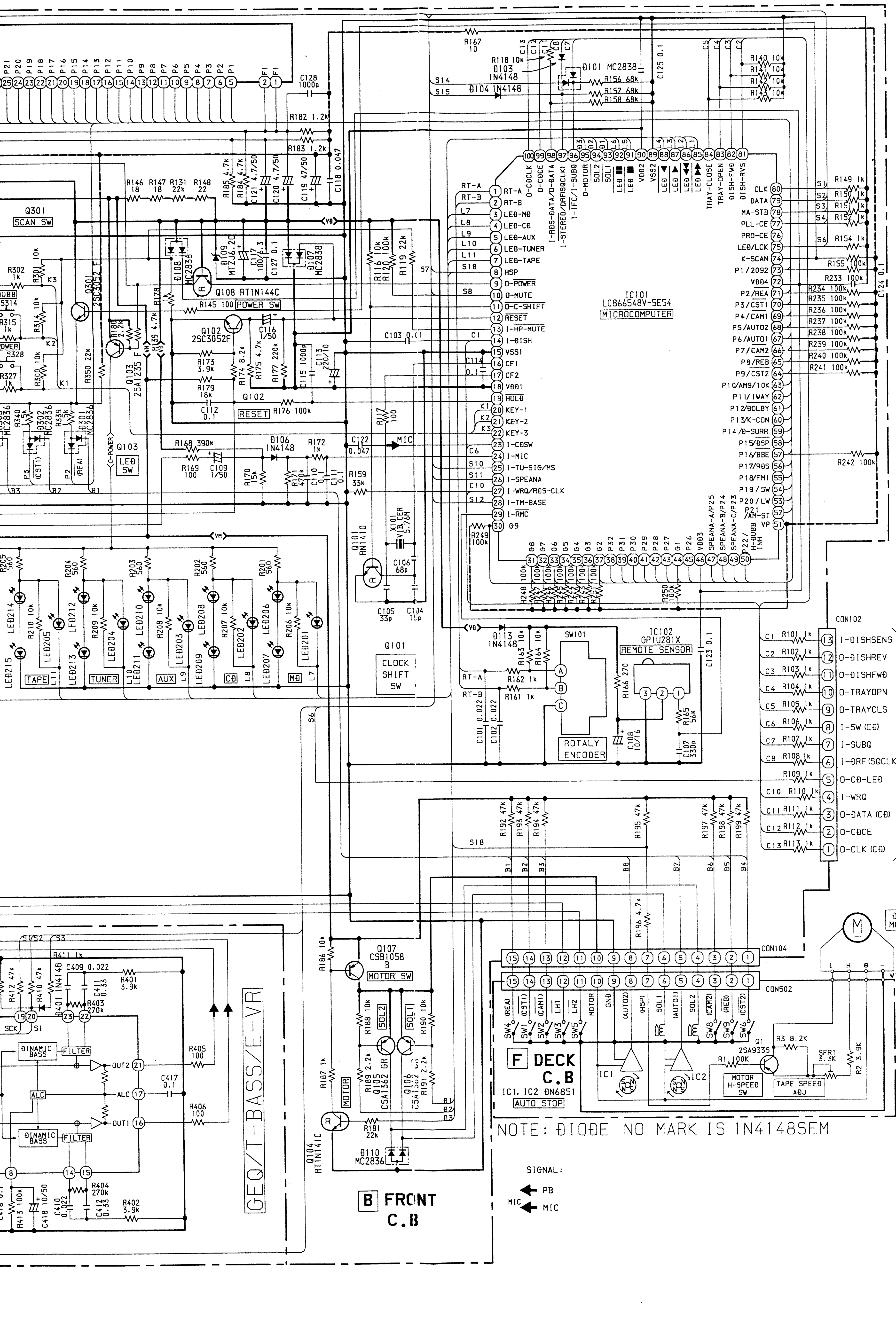


CON601
SIG/MS
RDS-CLK
RDS-DATA
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
STB
MUTE
PLL-CE
LH1
LH2
HSP
D-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
VCC
MIC
OUT-L
OUT-R
A-GND
IN-L
IN-R
A-GND
TO B FRONT C.B CON101
IC720 LC72131D (Z) PLL
X721 4.500MHz
Q711 CSD1489 B TUNER SW
IC770 LA1837 DECODER
BUFFERS
L771 FM DET-N
L792 1POLE MPX
L791 1POLE MPX
IC401 BA3880S BBE
D441 1N4148T
D442 MC2836
H HEAD-2 C.B
AZIMUTH ADJ
DECK 2
PIN351
EH
RPH L CH
R CH
Q356 2SC3052F BEAT SW
SFR351, 352 REC/PB FREQ RESPONSE ADJ
L351 OSC 85K BIAS
BIAS OSC FREQ ADJ
Q358, 359 BIAS OSC
Q357 KTC3198 GR BIAS SW
D352 MC2836
L302 TRAP BIAS
L301 TRAP BIAS
D351 1N4148
Q355 RT1P141C
Q351 2SK2158
Q354 2SK2158
Q353 2SK2158
Q351, 353~355, 360 REC/PB SW
SFR301~304 PB SENS ADJ
IC301 HA12211 REC PB AMP
DECK 1
PIN301
G HEAD-1 C.B
AZIMUTH ADJ
Q360 RT1N141 C
TP2
DECK OUT
IC302 CXA1553P
DOLBY DECODER
FB301 EM1BL01 RN1
SFR305, 306 REC/PB SENSITIVITY ADJ
Q603 RT1P 141C
Q602 2SC3052
Q601 2SC3052
Q601~603 MD REC MUTE
IC601 BH3810FS VF/FUNCTION
D601 1N4148T
Q381~383 MS LEVEL DET
Q382 2SC3052 F
Q381 2SC3052 F
MS
A MAIN C.B


FM DET-N (BLUE)
DC BALANCE ADJ
AUTO STOP
CF802 MS2 GHY. R
CF801 SFE 10.7 MS3G-A
Q805 2SC2714 (O)
FM IF AMP
Q806 RT1P144C
BAND SW
FFE801 6ZA1 FEENM
IF OUT
GND
OSC OUT
VT
+B
GND
NC (GND)
ANT
J801 ANTENNA
FM 75Ω (COAXIAL)
LW/MW LOOP
L772 CFAZH-450 (TOK)
Q951 RT1P141C
MW/LW SW
L981 (2/3) AM PACK 2 (TOM)
L981 (3/3) AM PACK 2 (TOM)
L981 (1/3) AM PACK 2 (TOM)
MW TRACKING ADJ
Q947 2SK543 4/5
RF AMP
AM RF AMP
D944 1N4148
D942 MC2838
REG
AM LO
AM RF
BUFFERS
DET OUT
MONO
FM/AM
IF BO
FM VSM
AM SD BW
FM DET
VCC
ST/AM-IFO
TUNE
GND
AM-IF IN
FM-IF REF
AM-IF OUT
FM-IN
R-OUT
L-OUT
DET IN
FM
AM
AGC
S-CURVE
AM RF
REG
AM LO
AM LBO
DECODER
L942 856KHZ OSC LW (CO1)
LW VT ADJ
Q952 CSD1306 E
OSC SW
Q948 CSD1306 E
MW/LW SWITCH
L941 252KHZ ANT LW (CO1)
L791 1POLE MPX
TP4.5 DC BALANCE
J601 AUX/MD (L/R) LINE OUT
VIDEO/AUX IN
MD IN
LINE OUT
CON602
TO 3CD C.B CON5
IC601 BH3810FS
VF/FUNCTION
MD REC MUTE
CD ON
TU ON
SUR
BIAS
BBE1
BBE2
VCC
VM
D602 MTZJ4.3A
D603 MTZJ5.1B
D601 1N4148T
STB
DATA
CLK
PB-SEL
REC-SEL
L-CH
R-CH
Q203~212 Q233~236 POWER AMP
Q201, 202, 225 MUTE SW
Q201 CSD1306E
Q202 CSD1306E
Q219 2SK2723
Q213, 214 OVERLOAD DET
Q209 FN1016
Q211 FP1016
Q210 FN1016
Q212 FP1016
TH201 100K
TH202 100K
Q203 CMBT5551
Q205 CMBT5551
Q204 CMBT5551
Q206 CMBT5551
Q207 2SC5401
Q208 2SC5401
Q233 2SA1235 F
Q235 2SA1235 F
Q234 2SA1235 F
Q236 2SA1235 F
Q227 2SC3052F
POWER SW
Q225 2SA1235 F
Q226 2SA1235F
MUTE
D-POWER
Q223 RT1P144C
Q221 2SC3052 F
Q231 CMBT5551
Q232 RT1N141C
Q221~223 SWITCHING DRIVER
Q219, 220 SWITCHING
Q222 2SA1235F
Q220 2SK2723
D207 1N5402
PR201 10A 60V
D208 1N5402
PR202 10A 60V
D210 MTZJ5.1B
J252 PHONES
J253 SURROUND SPEAKERS
SPEAKER IMP: 16Ω + 16Ω
J253 SUPER WOOFER
J254 SPEAKERS
SPEAKER IMP: 6Ω
Q229 RT1N141C
SWITCHING DRIVER
RY201 QUAZSH-11
RY101 OSA-SS 212DMS
D101 RS403L
D102 RS603M
Q111, 112 -VFL REG
Q111 KTA1266
Q112 KTA1266
D110 MTZJ36A
D120 MTZJ16A
D106 1N4003
D107 1N4003
D108 1N4003
D109 1N4003
HOLD
Q110 2SC3052
HOLD SW
Q106 2SC3052 F
Q108 2SC3052
Q109 2SA1235
Q107 2SA1235 F
DC DET
AC DET
D105 MC2838
D104 MC2836
Q114 2SA1235 F
POWER SW
Q102 2SB1370 F
Q105 CSD1489 B
VCC SW
D116 MC2836
D112 MTZJ10C
Q104 2SC3052 F
Q103 KTC3198 GR
Q101~104 CONST VOL REG
2SB1370
WH101
WH001
W001
PR005 10A 60V
PR001 10A 60V
PR002 10A 60V
PR006 10A 60V
E AC2 C.B
PT101 PT-EKZ
D AC1 C.B
FC2 TP00351-5
FC1 TP00351-5
F101 1.6A 250
W103
AC 230V 50HZ
LIVE
NEUTRAL
IN C.B
SIGNAL:
PB/FM
REC/MW/LW
MIC

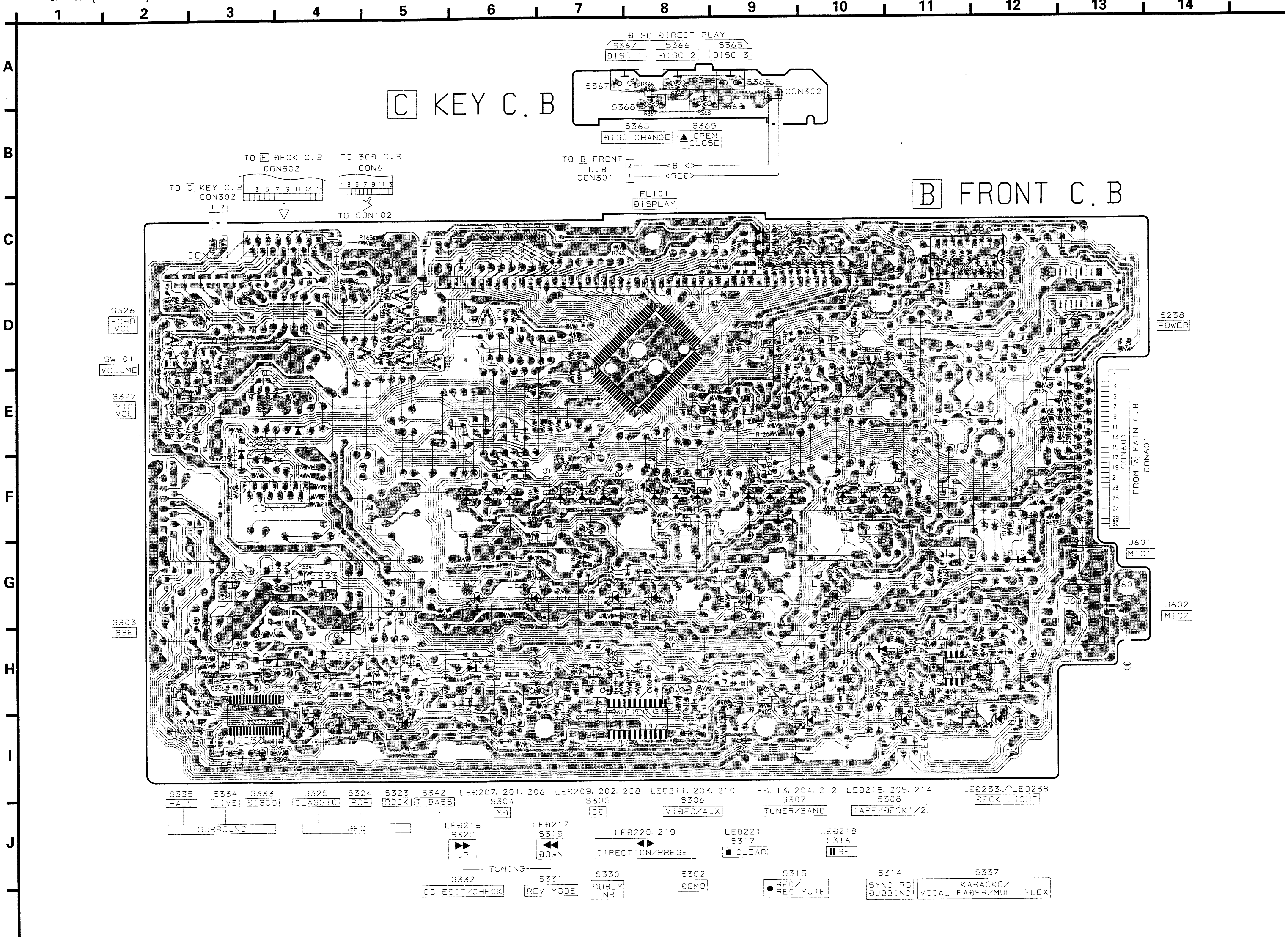
SCHEMATIC DIAGRAM – 2 (FRONT)


C KEY C.B
OPEN CLOSE
DISC CHANGE
DISC 1
DISC 2
DISC 3
S369
S368
S367
S366
S365
R368 22k
R367 10k
R366 5.6k
R365 4.7k
CON301
S11
FL101
BJ531 GK
DISPLAY
R221 1
R222 1
F1
F2
VFL
VB
VM
D352～354 1N4148
R363 4.7k
R362 4.7k
R361 4.7k
Q301
SCAN SW
TACT SW SKQNAB (N)
TAPE S308
TUNER S307
AUX S306
CD S305
MD S304
BBE S303
T-BASS S342
MIC-VOL SEL S327
ECHO-VOL SEL S326
CLASSIC S325
POP S324
ROCK S323
KC DOWN S337
FF S320
REW S319
PLAY S318
STOP S317
PAUSE S316
REC S315
DUBB S314
HALL S335
LIVE S334
DISCO S333
EDIT S332
REV MODE S331
DEMO S302
POWER S328
D331～D339 KEY.SCAN
2SC2052 F
IC380 BA38355
SPEANA
D351 1N4148
CON101
TO A MAIN C.B CON601
TU-SIG/MS
RDS-CLK
RDS-DATA
TM-BASE
CLK
DATA
TUNE/IFC
STEREO
MA-STB
MUTE
PLL-CE
LH1
LH2
HSP
O-POWER
F1
F2
HOLD
VM
-VFL
D-GND
HP-MUTE
VCC
MIC
IN-L
IN-R
A-GND
OUT-L
OUT-R
A-GND
AC4.4
AC4.4
11.6
11.0
LED201～205 SLR-342VCT31
LED206～215 SLR-56PCT31
LED216～221 SLH-56PCTE7
LED233, 234 LED237, 238 SLH-56PCL
LED235, 236 SLH-56VCL
LED222～229
STOP
REV
FWD
PAUSE
REW
FF
TAPE
TUNE
LED233～238 DECK LIGHT
MIC
Q601 2SK2158
D601 1N4148
R606 470
IC601 MIC AMP
Q601 MIC LEVEL AGC
IC601 (1/2) NJM4558 MD
IC601 (2/2) NJM4558 MD
MIC1 J601
MIC2 J602
FB601 EMIBL01 RN1
R607 4.7k
R608 4.7k
DSP/ECHO
IC501 BU9262AFS
SELECTOR
CONTROL
FVOL
RAM
PROCESSOR
LPF
DAC
SERIAL CIRCUIT
CLOCK
VOL
ADC
D501 MTZJ5.6B
L501 220μH
IC401 BH3864F
DINAMIC BASS
FILTER
BASS
TRE
DIGITAL CONTROL
ALC
IN2
VCC
FILTER
GND
IN1
VOL
SCK
SI


IC101
LC866548V-5E54
MICROCOMPUTER
CLK
DATA
MA-STB
PLL-CE
PRO-CE
LED/LCK
K-SCAN
P1/2092
VDD4
P2/REA
P3/CST1
P4/CAM1
P5/AUTO2
P6/AUTO1
P7/CAM2
P8/REB
P9/CST2
P10/AM9/10K
P11/1WAY
P12/DOLBY
P13/K-CON
P14/D-SURR
P15/DSP
P16/BBE
P17/RDS
P18/FM1
P19/SW
P20/LW
P21/AM-ST
VP
RT-A
RT-B
LED-MD
LED-CD
LED-AUX
LED-TUNER
LED-TAPE
HSP
O-POWER
O-MUTE
O-C-SHIFT
RESET
I-HP-MUTE
I-DISH
VSS1
CF1
CF2
VDD1
HOLD
KEY-1
KEY-2
KEY-3
I-CDSW
I-MIC
I-TU-SIG/MS
I-SPEANA
I-WRQ/RDS-CLK
I-TM-BASE
I-RMC
G9
O-CDCLK
O-CDCE
I-RDS-DATA/O-DATA
I-STEREO/DRF(SQCLK)
I-TFC/I-SUBQ
O-MOTOR
SOL2
SOL1
VDD2
VSS2
TRAY-CLOSE
TRAY-OPEN
DISH-FWD
DISH-RVS
SPEANA-A/P25
SPEANA-B/P24
SPEANA-C/P23
P22/H-DUBB INH
Q301 SCAN SW
Q108 RT1N144C POWER SW
Q102 2SC3052F
Q103 2SA1235 F
Q103 LED SW
RESET
D101 MC2838
D103 1N4148
D104 1N4148
D106 1N4148
D107 MC2838
D108 MC2836
D109 MTZJ6.2C
Q101 RN1410
X101 VIB.CER 5.76M
Q101 CLOCK SHIFT SW
MIC
D113 1N4148
SW101
ROTALY ENCODER
IC102 GP1U281X
REMOTE SENSOR
CON102
I-DISHSENS
O-DISHREV
O-DISHFWD
O-TRAYOPN
O-TRAYCLS
I-SW (CD)
I-SUBQ
I-DRF (SQCLK)
O-CD-LED
I-WRQ
O-DATA (CD)
O-CDCE
O-CLK (CD)
TO 3CD C.B CON6
LED201
LED202
LED203
LED204
LED205
LED206
LED207
LED208
LED209
LED210
LED211
LED212
LED213
LED214
LED215
TAPE
TUNER
AUX
CD
MD
Q107 CSB1058 B
MOTOR SW
Q105 CSA1362 GR
Q106 CSA1362 GR
SOL2
SOL1
Q104 RT1N141C
MOTOR
D110 MC2836
B FRONT C.B
CON104
CON502
(REA)
(CST1)
(CAM1)
LH1
LH2
MOTOR
GND
(AUTO2)
(HSP)
SOL1
(AUTO1)
SOL2
(CAM2)
(REB)
(CST2)
SW1
SW2
SW3
SW4
SW5
SW6
SW8
SW9
M1 DECK MOTOR
Q1 2SA933S
MOTOR H-SPEED SW
TAPE SPEED ADJ
SFR1 3.3K
IC1
IC2
F DECK C.B
IC1, IC2 DN6851
AUTO STOP
GEQ/T-BASS/E-VR
DINAMIC BASS
FILTER
ALC
OUT1
OUT2
SCK
SI
SIGNAL:
PB
MIC

NOTE: DIODE NO MARK IS 1N4148SEM

WIRING – 2 (FRONT)


1
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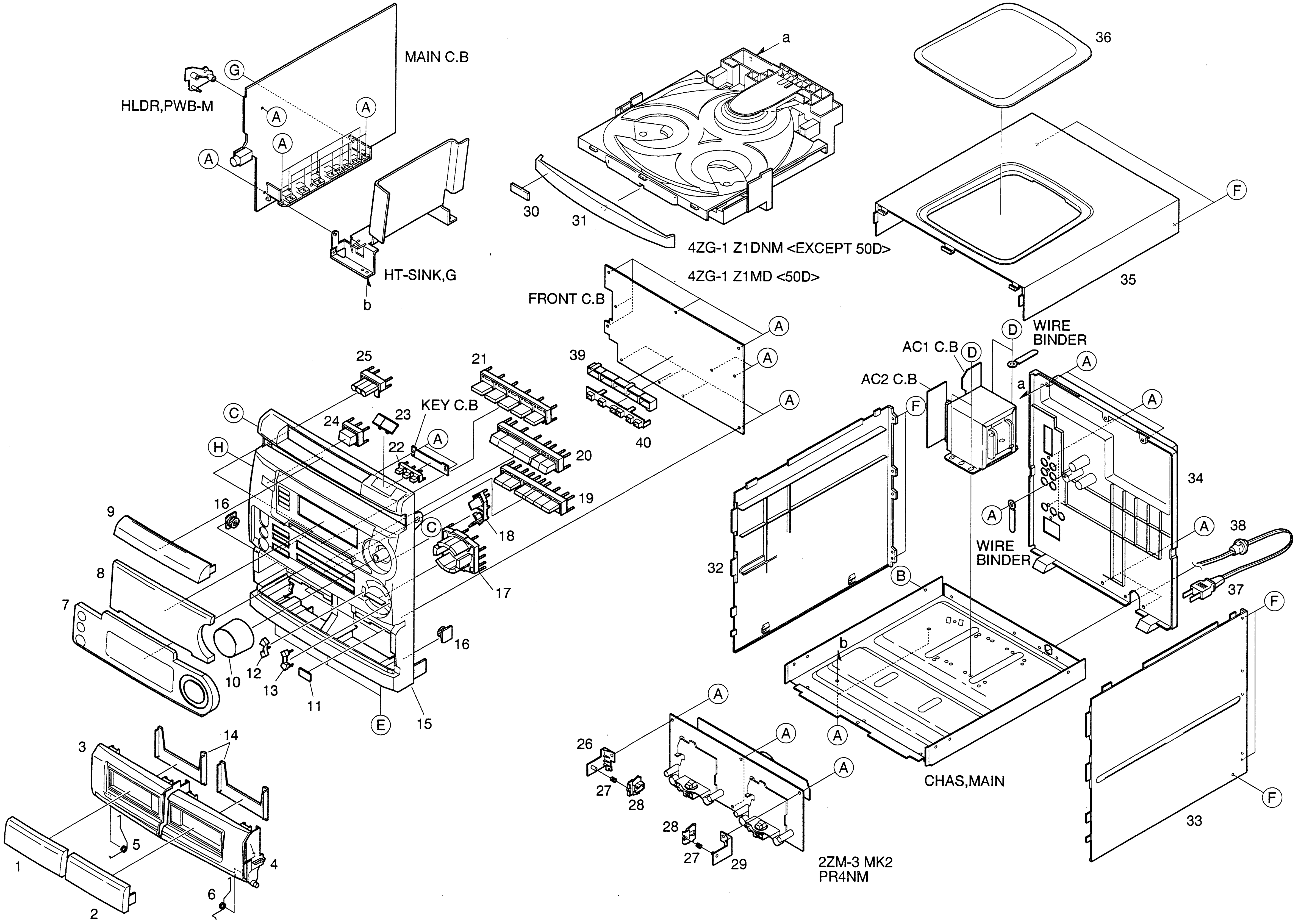
11
12
13
14
A
B
C
D
E
F
G
H
I
J
DISC DIRECT PLAY
S367
DISC 1
S366
DISC 2
S365
DISC 3
C KEY C.B
CON302
S368
DISC CHANGE
S369
▲ OPEN CLOSE
TO B FRONT C.B CON301
BLK
RED
B FRONT C.B
TO F DECK C.B CON502
TO 3CD C.B CON6
TO CON102
TO C KEY C.B CON302
FL101
DISPLAY
CON301
CON102
IC102
IC380
S326
ECHO VOL
SW101
VOLUME
S327
MIC VOL
S303
BBE
S238
POWER
FROM A MAIN C.B CON601
CON601
J601
MIC1
J602
MIC2
IC301
IC401
S335
HALL
S334
LIVE
S333
DISCO
SURROUND
S325
CLASSIC
S324
POP
S323
ROCK
GEQ
S342
T-BASS
LED207, 201, 206
S304
MD
LED209, 202, 208
S305
CD
LED211, 203, 210
S306
VIDEO/AUX
LED213, 204, 212
S307
TUNER/BAND
LED215, 205, 214
S308
TAPE/DECK1/2
LED233∼LED238
DECK LIGHT
LED216
S320
▶▶ UP
LED217
S319
◀◀ DOWN
TUNING
LED220, 219
◀▶ DIRECTION/PRESET
LED221
S317
■ CLEAR
LED218
S316
II SET
S332
CD EDIT/CHECK
S331
REV MODE
S330
DOLBY NR
S302
DEMO
S315
● REC/REC MUTE
S314
SYNCHRO DUBBING
S337
KARAOKE/VOCAL FADER/MULTIPLEX

MECHANICAL EXPLODED VIEW 1 / 1


MAIN C.B
HLDR,PWB-M
HT-SINK,G
G
A
b
a
36
35
F
30
31
4ZG-1 Z1DNM <EXCEPT 50D>
4ZG-1 Z1MD <50D>
FRONT C.B
39
40
D
WIRE BINDER
AC1 C.B
AC2 C.B
25
21
KEY C.B
24
23
22
20
19
18
17
C
H
9
16
8
7
10
12
13
11
E
15
32
34
38
37
33
B
CHAS,MAIN
3
14
1
2
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6
4
26
27
28
29
2ZM-3 MK2
PR4NM

MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

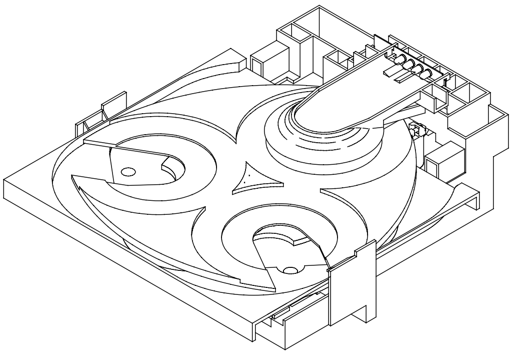
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-NF6-041-010		WINDOW,CASS 1
2	87-NF6-042-010		WINDOW,CASS 2
3	87-NF6-013-210		BOX,CASS 1E
4	87-NF6-014-210		BOX,CASS 2E
5	82-NF5-218-010		SPR-T,EJECT 1 (SIN)
6	82-NF5-219-010		SPR-T,EJECT 2 (SIN)
7	87-NF6-010-010		PANEL,FR K
8	87-NF6-009-010		WINDOW,DISPLAY K
9	87-NF6-043-010		WINDOW,CD
10	87-NF6-036-010		KNOB,RTRY VOL
11	81-532-080-010		LABEL, CASS. COMPT
12	87-NF6-040-010		PANEL,T-BASS
13	87-NF6-039-010		PANEL,BBE
14	86-NF6-061-010		REFLECTOR,CASS
15	87-NF6-003-110		CABI,FR E
16	87-063-165-010		OIL-DMPR 150
17	87-NF6-026-010		KEY,CURSOR H
18	87-NF6-028-110		KEY,MIC
19	87-NF6-033-010		KEY,REC E
20	87-NF6-049-010		KEY,ASSY PLAY
21	87-NF6-029-010		KEY,FUNCTION
22	87-NF6-045-010		KEY,DISC
23	87-NF6-024-010		KEY,CD
24	87-NF6-025-010		KEY,POWER
25	87-NF6-034-010		KEY,KARAOKE

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
26	87-NF4-216-010		HLDR,LOCK 1
27	82-NF5-228-010		SPR-C,LOCK
28	82-NF5-229-010		PLATE,LOCK
29	87-NF4-217-010		HLDR,LOCK 2
30	82-NE6-067-010		BADGE,AIWA 30N
31	87-NF6-018-010		PANEL,TRAY E
32	87-NF6-022-010		PANEL,LEFT
33	87-NF6-023-110		PANEL,RIGHT
34	87-NF6-070-010		CABI,REAR GSTNM
35	87-NF6-021-010		PANEL,TOP
36	86-NF6-007-010		WINDOW,TOP
⚠ 37	87-050-081-110		AC CORD ASSY,G
38	87-085-185-010		BUSHING, AC CORD
39	87-NF6-201-010		GUIDE,FUN
40	87-NF6-202-010		GUIDE,PLAY
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-721-096-410		QT2+3-10 GLD
C	87-721-097-410		QT2+3-12 GLD
D	87-078-019-010		S-SCREW,IT+4-6
E	87-067-688-010		BVTT+3-6
F	87-B10-091-010		UTT2+3-10 W/O SLOT BLK
G	87-NF4-224-010		S-SCREW,IT3B+3-8 CU
H	87-723-096-410		QT2+3-10W/O SLOT BL

aiwa

aiwa
SERVICE

4ZG-1



CD MECHANISM

- BASIC CD MECHANISM:3ZG-2 E1
- TYPE: English

SERVICE MANUAL

BASIC NAME	DERIVATION NAME					
4ZG-1	V	O	S1	D	SH	

■ This Service Manual has various derivation.Derivation name is indicated by the Service Manual for each model.

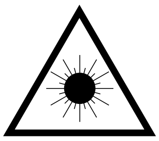
S/M Code No. 09-985-249-80T

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- ■ Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- ■ Advarsel: Usynling laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION

L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!

Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

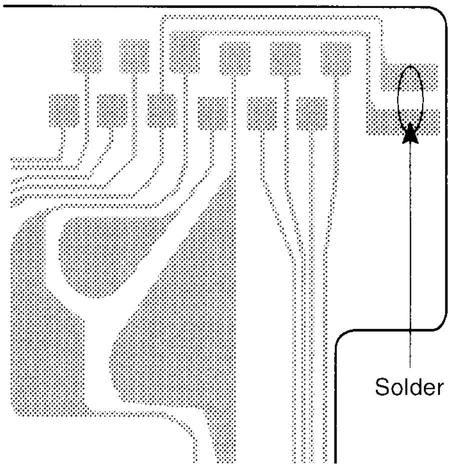
CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block (KSS-213F)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in the right figure.

PICK-UP Assy P.C.B



This is the SERVICE MANUAL for the BASIC CD MECHANISM of BASIC NAME: 4ZG-1. This BASIC NAME includes the following models as shown under the SUFFIX name: DERIVATION NAME. Please use this manual with the separate SERVICE MANUAL for DERIVATION NAME.

BASIC CD MECHANISM: 4ZG-1 VOS1DSH
SUFFIX
(DERIVATION NAME)
BASIC NAME: 4ZG-1

BASIC NAME	DERIVATION NAME							
4ZG-1	V	O	S1	D	SH	—	—	—

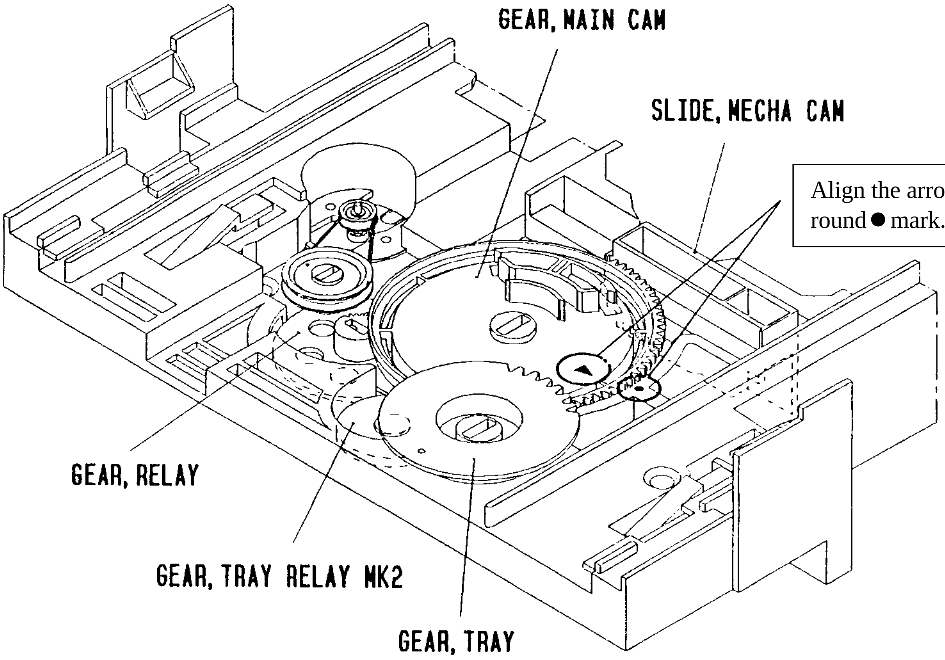
DERIVATION NAME

V: VIDEO OUT
O: On screen display
S1: THE 1st SONY IC MODEL
D: Digital output function
SH: Pick up equipped with shutter

How to Adjust the Rotating Phase of the Gear, Main Cam

1) Push down the hooking catch of the CHAS. MECH, and remove the TRAY.
2) Align the arrow mark of the Gear, Main Cam with the black round mark of the CHAS, MECHA as shown below.
3) Confirm that the Slide, Mech Cam is located in the right position, then insert the TRAY gently.

Caution: If the rotating phase of the Gear, Main Cam is incorrectly adjusted, the chucking operation and tray movement will have malfunction.


GEAR, MAIN CAM
SLIDE, MECHA CAM
GEAR, RELAY
GEAR, TRAY RELAY MK2
GEAR, TRAY

Align the arrow ▶ mark with the black round ● mark.

ELECTRICAL MAIN PARTS LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-A20-547-010		C-IC,CXA1992AR
	87-A20-919-040		C-IC,BA5915FP
	87-A20-917-010		C-IC,CXD2540Q-1/2
	84-ZG1-697-010		C-IC,UPD78016FGC-549
	87-017-825-010		IC,GP1F32T
	87-017-760-080		IC,M51943BML
	87-A20-602-040		C-IC,M5291FP
	87-A20-925-040		C-IC,BA05FP
	87-A20-905-040		C-IC,BA033FP
	87-001-873-010		IC,LB1644
	87-A20-920-010		C-IC,CL680-D1
	87-A20-921-040		C-IC,SN74LVU04APW
	87-A20-656-040		C-IC,MB81V4260S-60/70PFTN
	84-ZG1-695-040		C-IC,LH5V2RN1
	87-A20-975-040		C-IC,SN74LV74APW
	87-A20-974-040		C-IC,LC74781M-9017
	87-A20-918-040		C-IC,SM5878AM
TRANSISTOR			
	87-026-463-080		TR,2SA933S (0.3W)
	87-026-237-080		CHIP-TR,DTC124XK
	89-327-125-080		CHIP TR,2SC2712GR
	87-026-231-080		CHIP-TRANSISTER,DTA124XK
	87-A30-117-010		TR,2SA1357
	89-111-625-080		TR,2SA1162 (0.15W)
	87-026-580-080		C-TR,DTA123JK
	87-026-470-080		TR,HN1C03F (0.3W)
DIODE			
	87-020-027-080		CHIP-DIODE 1SS184
	87-017-024-040		C-DIODE,DA204K
	87-A40-180-040		C-DIODE,SB07-015C
	87-A40-384-080		C-ZENER,UDZ3.3B
3CD C.B			
C101	87-010-182-080		C-CAP,S 2200P-50 B
C102	87-016-669-080		C-CAP,S 0.1-25 K B
C103	87-016-669-080		C-CAP,S 0.1-25 K B
C104	87-016-669-080		C-CAP,S 0.1-25 K B
C105	87-010-404-040		CAP,E 4.7-50 SME
C106	87-016-369-080		C-CAP,S 0.033-25 B K
C107	87-010-197-080		CAP, CHIP 0.01 DM
C108	87-010-401-040		CAP,E 1-50 SME
C109	87-010-382-040		CAP,E 22-25 SME
C110	87-010-213-080		C-CAP,S 0.015-50 B
C111	87-010-263-040		CAP,E 100-10
C112	87-010-197-080		CAP, CHIP 0.01 DM
C113	87-016-369-080		C-CAP,S 0.033-25 B K
C114	87-016-369-080		C-CAP,S 0.033-25 B K
C115	87-016-369-080		C-CAP,S 0.033-25 B K
C116	87-012-158-080		C-CAP,S 390P-50 CH
C117	87-012-154-080		C-CAP,S 150P-50 CH
C118	87-010-494-040		CAP,E 1-50 GAS
C119	87-010-152-080		C-CAP,S 8P-50 CH
C120	87-010-992-080		C-CAP,S 0.047-25 B
C121	87-010-992-080		C-CAP,S 0.047-25 B
C123	87-016-669-080		C-CAP,S 0.1-25 K B
C125	87-010-198-080		CAP, CHIP 0.022
C126	87-016-669-080		C-CAP,S 0.1-25 K B
C127	87-010-555-040		CAP,E 100-10 GAS
C130	87-010-555-040		CAP,E 100-10 GAS
C131	87-010-555-040		CAP,E 100-10 GAS
C132	87-010-178-080		CHIP CAP 1000P
C133	87-010-555-040		CAP,E 100-10 GAS
C134	87-010-196-080		CHIP CAPACITOR,0.1-25
C135	87-010-196-080		CHIP CAPACITOR,0.1-25
C136	87-010-196-080		CHIP CAPACITOR,0.1-25
C137	87-010-196-080		CHIP CAPACITOR,0.1-25
C138	87-010-182-080		C-CAP,S 2200P-50 B
C139	87-010-197-080		CAP, CHIP 0.01 DM
C140	87-010-112-040		CAP,E 100-16
C141	87-010-196-080		CHIP CAPACITOR,0.1-25
C142	87-010-196-080		CHIP CAPACITOR,0.1-25
C143	87-010-213-080		C-CAP,S 0.015-50 B
C151	87-010-263-040		CAP,E 100-10
C152	87-010-197-080		CAP, CHIP 0.01 DM
C153	87-A10-893-040		CAP,E 220-10 M PW
C154	87-010-197-080		CAP, CHIP 0.01 DM
C155	87-010-184-080		CHIP CAPACITOR 3300P(K)
C156	87-010-992-080		C-CAP,S 0.047-25 B
C157	87-010-992-080		C-CAP,S 0.047-25 B
C158	87-012-156-080		C-CAP,S 220P-50 CH
C159	87-016-526-080		C-CAP,S 0.47-16 BK
C160	87-010-314-080		C-CAP,S 22P-50V
C161	87-010-182-080		C-CAP,S 2200P-50 B
C162	87-010-178-080		CHIP CAP 1000P
C201	87-016-669-080		C-CAP,S 0.1-25 K B
C204	87-010-197-080		CAP, CHIP 0.01 DM
C205	87-010-379-040		CAP,E 22-16 M SME
C206	87-010-322-080		C-CAP,S 100P-50 CH
C207	87-010-322-080		C-CAP,S 100P-50 CH
C208	87-010-322-080		C-CAP,S 100P-50 CH
C209	87-010-322-080		C-CAP,S 100P-50 CH
C210	87-016-669-080		C-CAP,S 0.1-25 K B
C211	87-010-263-040		CAP,E 100-10
C213	87-010-190-080		S CHIP F 0.01
C214	87-010-196-080		CHIP CAPACITOR,0.1-25
C301	87-016-251-040		CAP,E 220-16 SMG
C302	87-012-140-080		CAP 470P
C303	87-010-178-080		CHIP CAP 1000P
C304	87-010-384-040		CAP,E 100-25 SME
C305	87-010-982-040		CAP,E 33-25 GAS
C306	87-010-112-040		CAP,E 100-16
C307	87-010-196-080		CHIP CAPACITOR,0.1-25
C308	87-010-263-040		CAP,E 100-10
C309	87-010-196-080		CHIP CAPACITOR,0.1-25
C310	87-010-263-040		CAP,E 100-10
C311	87-010-196-080		CHIP CAPACITOR,0.1-25
C312	87-010-178-080		CHIP CAP 1000P
C320	87-010-196-080		CHIP CAPACITOR,0.1-25
C401	87-016-044-040		CAP,E 100-16 GAS
C402	87-010-190-080		S CHIP F 0.01
C403	87-010-190-080		S CHIP F 0.01
C501	87-010-197-080		CAP, CHIP 0.01 DM
C502	87-010-197-080		CAP, CHIP 0.01 DM
C503	87-010-197-080		CAP, CHIP 0.01 DM
C504	87-010-154-080		CAP CHIP 10P
C505	87-010-154-080		CAP CHIP 10P
C506	87-010-197-080		CAP, CHIP 0.01 DM
C508	87-010-263-040		CAP,E 100-10
C509	87-016-669-080		C-CAP,S 0.1-25 K B
C510	87-010-263-040		CAP,E 100-10
C511	87-016-669-080		C-CAP,S 0.1-25 K B
C512	87-010-197-080		CAP, CHIP 0.01 DM
C513	87-010-197-080		CAP, CHIP 0.01 DM
C514	87-010-197-080		CAP, CHIP 0.01 DM
C518	87-010-322-080		C-CAP,S 100P-50 CH
C519	87-012-145-080		CAP, CHIP S 270P CH
C520	87-012-157-080		C-CAP,S 330P-50 CH
C521	87-012-154-080		C-CAP,S 150P-50 CH
C522	87-010-371-080		CAP, ELECT 470-6.3V
C523	87-010-197-080		CAP, CHIP 0.01 DM
C524	87-010-197-080		CAP, CHIP 0.01 DM
C525	87-010-197-080		CAP, CHIP 0.01 DM
C526	87-010-197-080		CAP, CHIP 0.01 DM

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C527	87-010-197-080		CAP, CHIP 0.01 DM
C528	87-010-197-080		CAP, CHIP 0.01 DM
C529	87-010-197-080		CAP, CHIP 0.01 DM
C530	87-010-197-080		CAP, CHIP 0.01 DM
C531	87-010-197-080		CAP, CHIP 0.01 DM
C532	87-010-374-040		CAP,E 47-10
C533	87-010-197-080		CAP, CHIP 0.01 DM
C534	87-010-555-040		CAP,E 100-10 GAS
C535	87-010-197-080		CAP, CHIP 0.01 DM
C536	87-010-078-040		CAP,E 47-6.3 5L
C537	87-010-197-080		CAP, CHIP 0.01 DM
C538	87-010-196-080		CHIP CAPACITOR,0.1-25
C539	87-016-669-080		C-CAP,S 0.1-25 K B
C540	87-010-078-040		CAP,E 47-6.3 5L
C541	87-010-197-080		CAP, CHIP 0.01 DM
C542	87-010-318-080		C-CAP,S 47P-50 CH
C544	87-010-197-080		CAP, CHIP 0.01 DM
C546	87-010-197-080		CAP, CHIP 0.01 DM
C549	87-010-494-040		CAP,E 1-50 GAS
C550	87-010-196-080		CHIP CAPACITOR,0.1-25
C551	87-012-153-080		C-CAP,S 120P-50 CH
C552	87-016-526-080		C-CAP,S 0.47-16 BK
C554	87-010-197-080		CAP, CHIP 0.01 DM
C556	87-010-378-040		CAP,E 10-16
C557	87-010-316-080		C-CAP,S 33P-50 CH
C558	87-010-315-080		C-CAP,S 27P-50 CH
C560	87-010-197-080		CAP, CHIP 0.01 DM
C601	87-010-197-080		CAP, CHIP 0.01 DM
C602	87-010-197-080		CAP, CHIP 0.01 DM
C603	87-010-112-040		CAP,E 100-16
C604	87-010-196-080		CHIP CAPACITOR,0.1-25
C605	87-010-197-080		CAP, CHIP 0.01 DM
C606	87-010-197-080		CAP, CHIP 0.01 DM
C607	87-010-313-080		CAP, CHIP 18P
C608	87-010-313-080		CAP, CHIP 18P
C609	87-010-178-080		CHIP CAP 1000P
C610	87-010-178-080		CHIP CAP 1000P
C611	87-010-178-080		CHIP CAP 1000P
C612	87-010-178-080		CHIP CAP 1000P
C613	87-010-403-040		CAP,E 3.3-50 SME
C614	87-010-403-040		CAP,E 3.3-50 SME
C615	87-010-318-080		C-CAP,S 47P-50 CH
C616	87-010-318-080		C-CAP,S 47P-50 CH
CN101	87-A60-424-010		CONN,16P V TOC-B
CN102	87-099-199-010		CONN,6P 6216 H
CN401	87-099-212-010		CONN,5P 6216 V
CN403	87-099-030-010		CONN,13P 6216H
J501	87-009-502-010		JACK,PIN 1P Y EARTH
L101	87-005-196-080		COIL,10UH
L301	87-A50-095-010		COIL,68UH RCR875D
L302	87-005-426-080		COIL,3.3UH K FLR50
L502	87-005-204-080		COIL,47UH
L503	87-005-189-080		COIL 2.7UH
L504	87-005-187-080		COIL,1.8UH
L505	87-005-204-080		COIL,47UH
L506	87-005-204-080		COIL,47UH
L507	87-005-204-080		COIL,47UH
L508	87-005-817-080		C-COIL, 33UH J FLC32
M401	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
R130	87-022-364-080		C-RES,S 82K-1/10W F
R131	87-022-364-080		C-RES,S 82K-1/10W F
R132	87-022-364-080		C-RES,S 82K-1/10W F
R133	87-022-364-080		C-RES,S 82K-1/10W F
R134	87-022-364-080		C-RES,S 82K-1/10W F
R135	87-022-364-080		C-RES,S 82K-1/10W F
R507	87-A00-408-080		C-RES,S 2K-1/10W D
S201	87-A90-162-010		SW,SL 1-1-3 SSSU
S401	87-036-109-010		PUSH SWITCH
S402	87-036-109-010		PUSH SWITCH
W1	84-ZG1-673-010		F-CABLE,5P 1.25 210MM BLACK N
W2	85-NFT-611-110		FF-CABLE 16P-1.0
W3	84-ZG1-630-010		CABLE FFC 6P-1.25
X201	87-A70-124-080		VIB,CER 8.0MHZ
X501	87-A70-125-080		VIB,XTAL 27MHZ 50PPM
X601	87-030-270-080		VIB,XTAL 16.9344MHZ

LED C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
LED401	87-070-200-080		LED,SLP636C-81-S-T1
LED402	87-017-350-080		LED,SEL1550CM
LED403	87-017-350-080		LED,SEL1550CM
LED404	87-070-200-080		LED,SLP636C-81-S-T1

T-T C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
C401	87-018-214-080		CAP TC U 0.1-50F
CON401	86-NFZ-675-010		CONN,5P H 6216-11H
PS401	87-026-573-010		IC,GP1S53V

DRIVE C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
CN3	87-009-349-010		CONN,6P H WHT PH
M20	87-045-358-010		MOT,RF-310TA 43
M21	87-045-356-010		MOT,RF-310TA 30
SW1	87-A90-042-010		SW,LEAF MSW-17310MVPO

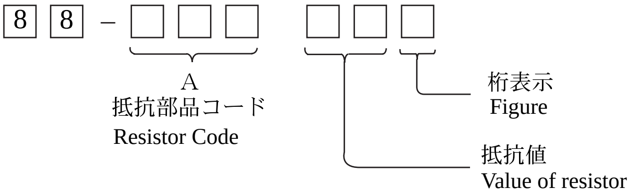
CD MOTOR C.B

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
CN4	87-099-210-010		CONN,5P H BLK 6216
M1	87-045-305-010		MOT,RF-500TB
SW1	87-035-110-010		SW,MICRO SPPB62
SW2	87-035-110-010		SW,MICRO SPPB62

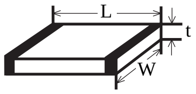
- Regarding connectors, they are not stocked as they are not the initial order items.
  The connectors are available after they are supplied from connector manufacturers upon the order is received.

○ チップ抵抗部品コード / CHIP RESISTOR PART CODE

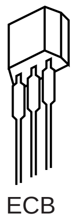
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding


8
8
–
A
抵抗部品コード
Resistor Code
桁表示
Figure
抵抗値
Value of resistor

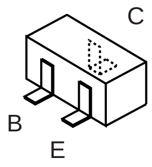
チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法 / Diamensions (mm)				抵抗コード :A Resistor Code : A
				外形 / Form	L	W	t	
1/16W	1608	5%	CJ		1.6	0.8	0.45	108
1/10W	2125	5%	CJ		2	1.25	0.45	118
1/8W	3216	5%	CJ		3.2	1.6	0.55	128

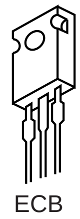
TRANSISTOR ILLUSTRATION



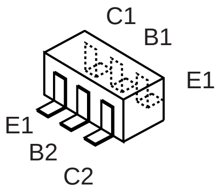
2SA933S



2SA1162
2SC2712
DTA123JK
DTA124XK
DTC124XK

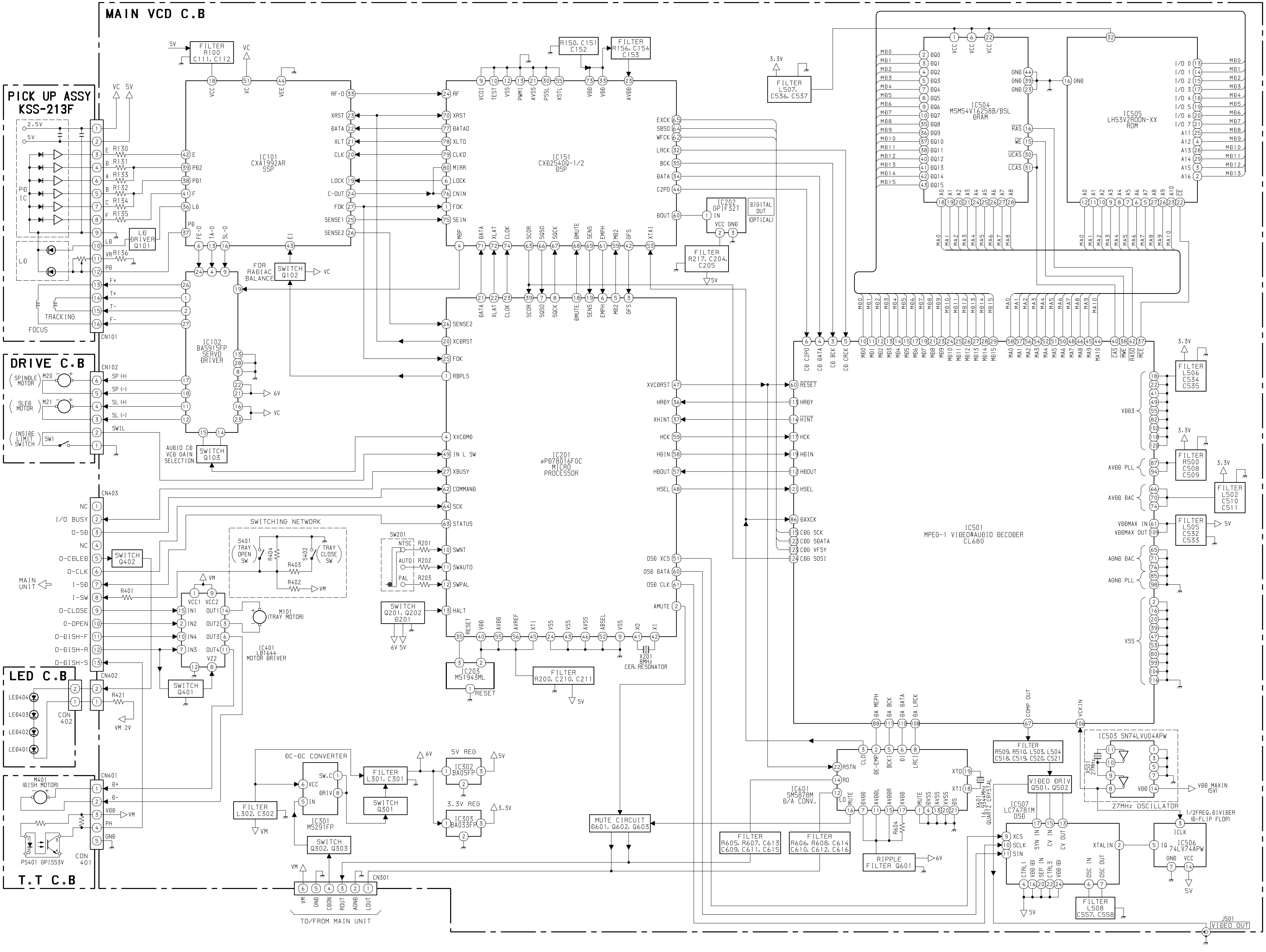


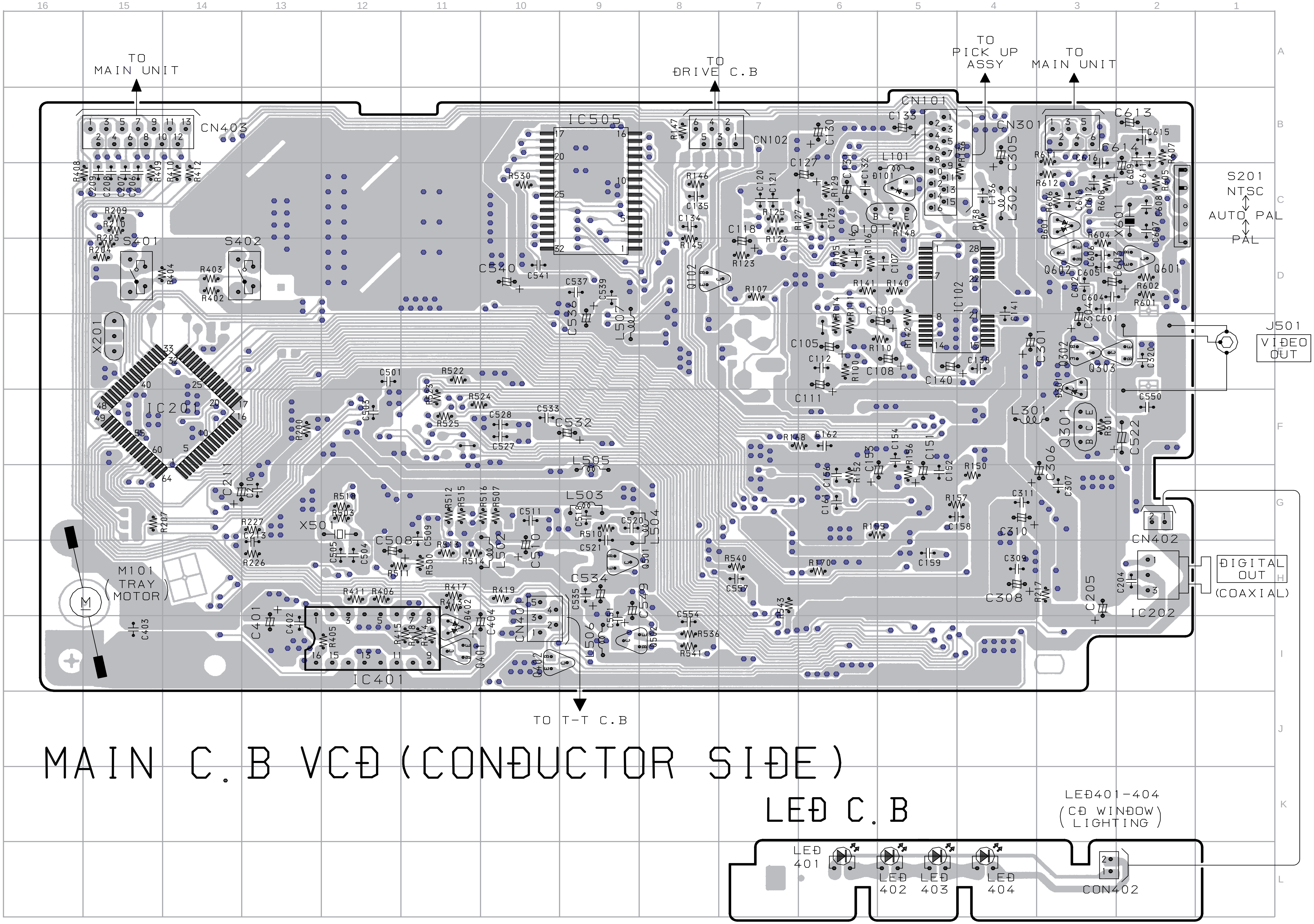
2SA1357


C1
B1
E1
E1
B2
C2

HN1C03F

BLOCK DIAGRAM


MAIN VCD C.B
PICK UP ASSY
KSS-213F
PD IC
LD
TRACKING
FOCUS
CN101
LD DRIVER Q101
R130
R131
R133
R132
R134
R135
R136
DRIVE C.B
CN102
SPINDLE MOTOR M20
SLED MOTOR M21
INSIDE LIMIT SWITCH SW1
SP (+)
SP (-)
SL (+)
SL (-)
SWIL
FILTER R100 C111, C112
IC101 CXA1992AR SSP
FOR RADIAC BALANCE
SWITCH Q102
IC102 BA5915FP SERVO DRIVER
AUDIO CD VCD GAIN SELECTION
SWITCH Q103
R150, C151 C152
FILTER R156, C154 C153
IC151 CXD2540Q-1/2 DSP
IC202 GP1F32T
DIGITAL OUT (OPTICAL)
FILTER R217, C204, C205
IC201 μPD78016FGC MICRO PROCESSOR
3.3V
FILTER L507, C536, C537
IC504 MSM54V16258B/BSL DRAM
IC505 LH53V2R00N-XX ROM
CN403
NC
I/O BUSY
O-SD
NC
O-CDLED
O-CLK
I-SD
I-SW
O-CLOSE
O-OPEN
O-DISH-F
O-DISH-R
O-DISH-S
MAIN UNIT
SWITCH Q402
R401
SWITCHING NETWORK
S401 TRAY OPEN SW
S402 TRAY CLOSE SW
R404
R403
R402
IC401 LB1644 MOTOR DRIVER
M101 (TRAY MOTOR)
SWITCH Q401
SW201
NTSC
AUTO
PAL
R201
R202
R203
SWITCH Q201, Q202 D201
IC203 M51943ML
RESET
X201 8MHz CER. RESONATOR
FILTER R200, C210, C211
IC501 MPEG-1 VIDEO&AUDIO DECODER CL680
FILTER L506 C534 C535
FILTER R500 C508 C509
FILTER L502 C510 C511
FILTER L505 C532 C533
VDD3
AVDD PLL
AVDD DAC
VDDMAX IN
VDDMAX OUT
AGND DAC
AGND PLL
VSS
LED C.B
LED404
LED403
LED402
LED401
CON 402
CN402
R421
VM 2V
T.T C.B
M401 (DISH MOTOR)
PS401 GP1S53V
CON 401
CN401
D+
D-
VDD
PH
GND
DC-DC CONVERTER
IC301 M5291FP
FILTER L301, C301
SWITCH Q301
FILTER L302, C302
SWITCH Q302, Q303
5V REG
IC302 BA05FP
3.3V REG
IC303 BA033FP
CN301
VM
GND
CDON
ROUT
AGND
LOUT
TO/FROM MAIN UNIT
MUTE CIRCUIT D601, Q602, Q603
IC601 SM5878M D/A CONV.
X601 16.934MHz QUARTZ CRYSTAL
FILTER R605, R607, C613 C609, C611, C615
FILTER R606, R608, C614 C610, C612, C616
RIPPLE FILTER Q601
FILTER R509, R510, L503, L504 C518, C519, C520, C521
VIDEO DRIV Q501, Q502
IC507 LC74781M OSD
FILTER L508 C557, C558
IC503 SN74LVU04APW
X501 27MHz
27MHz OSCILLATOR
VDD MAXIN (5V)
1/2FREQ.DIVIDER (D-FLIP FLOP)
IC506 74LV74APW
J501 VIDEO OUT


16
15
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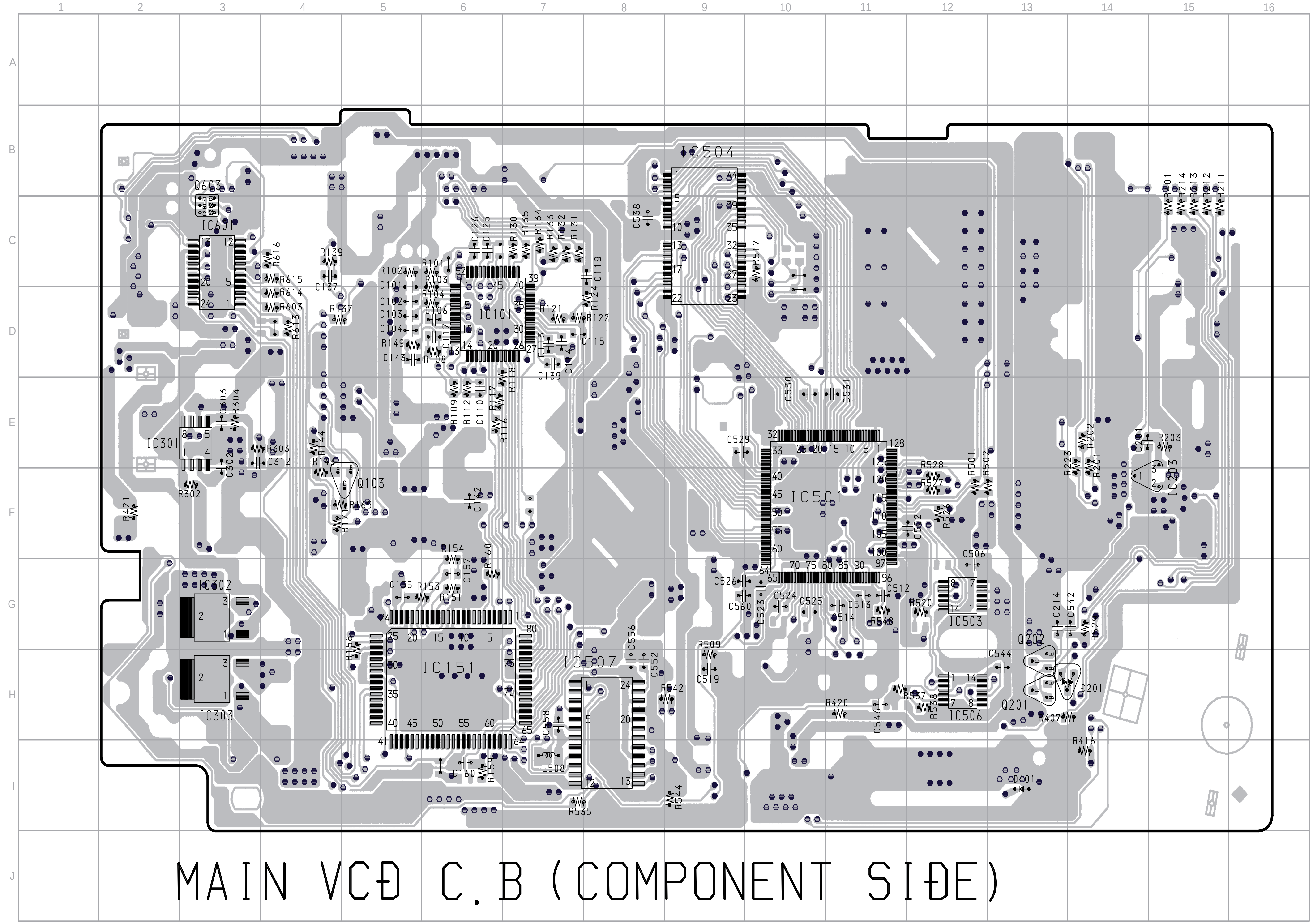
7
6
5
4
3
2
1
A
B
C
D
E
F
G
H
I
J
K
L
TO MAIN UNIT
CN403
TO DRIVE C.B
CN102
TO PICK UP ASSY
CN101
TO MAIN UNIT
CN301
IC505
IC102
IC201
IC401
IC202
Q101
Q102
Q301
Q302
Q303
Q401
Q402
Q501
Q502
Q601
Q602
X201
X501
X601
S401
S402
S201
NTSC
AUTO
PAL
PAL
J501
VIDEO OUT
CN402
DIGITAL OUT
(COAXIAL)
M101
TRAY MOTOR
M
CN401
L101
L301
L302
L503
L504
L505
L506
L507
D101
D301
D601
TO T-T C.B
LED401-404
(CD WINDOW LIGHTING)
LED 401
LED 402
LED 403
LED 404
CON402

MAIN C.B VCD (CONDUCTOR SIDE)

LED C.B


1
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16
A
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D
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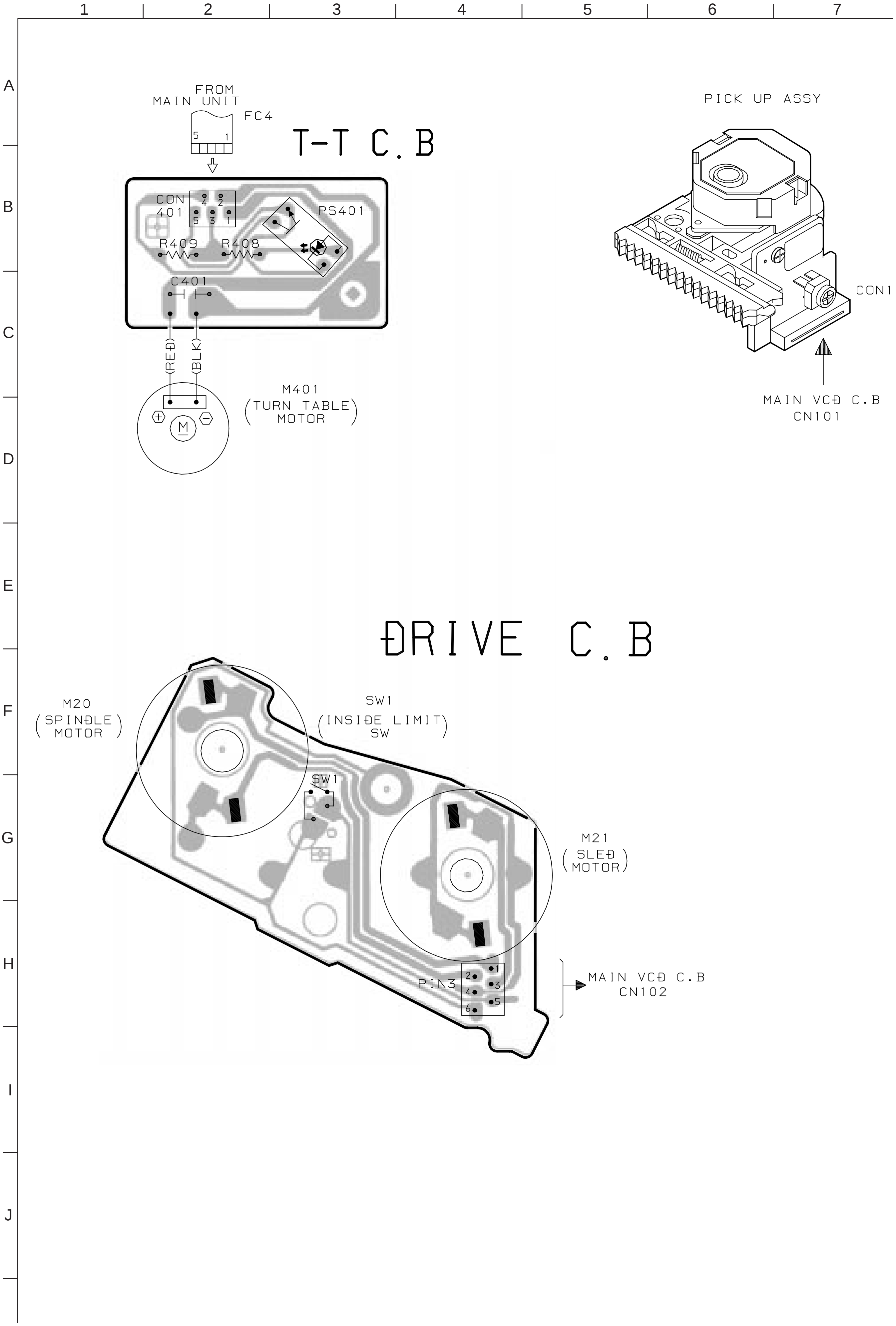
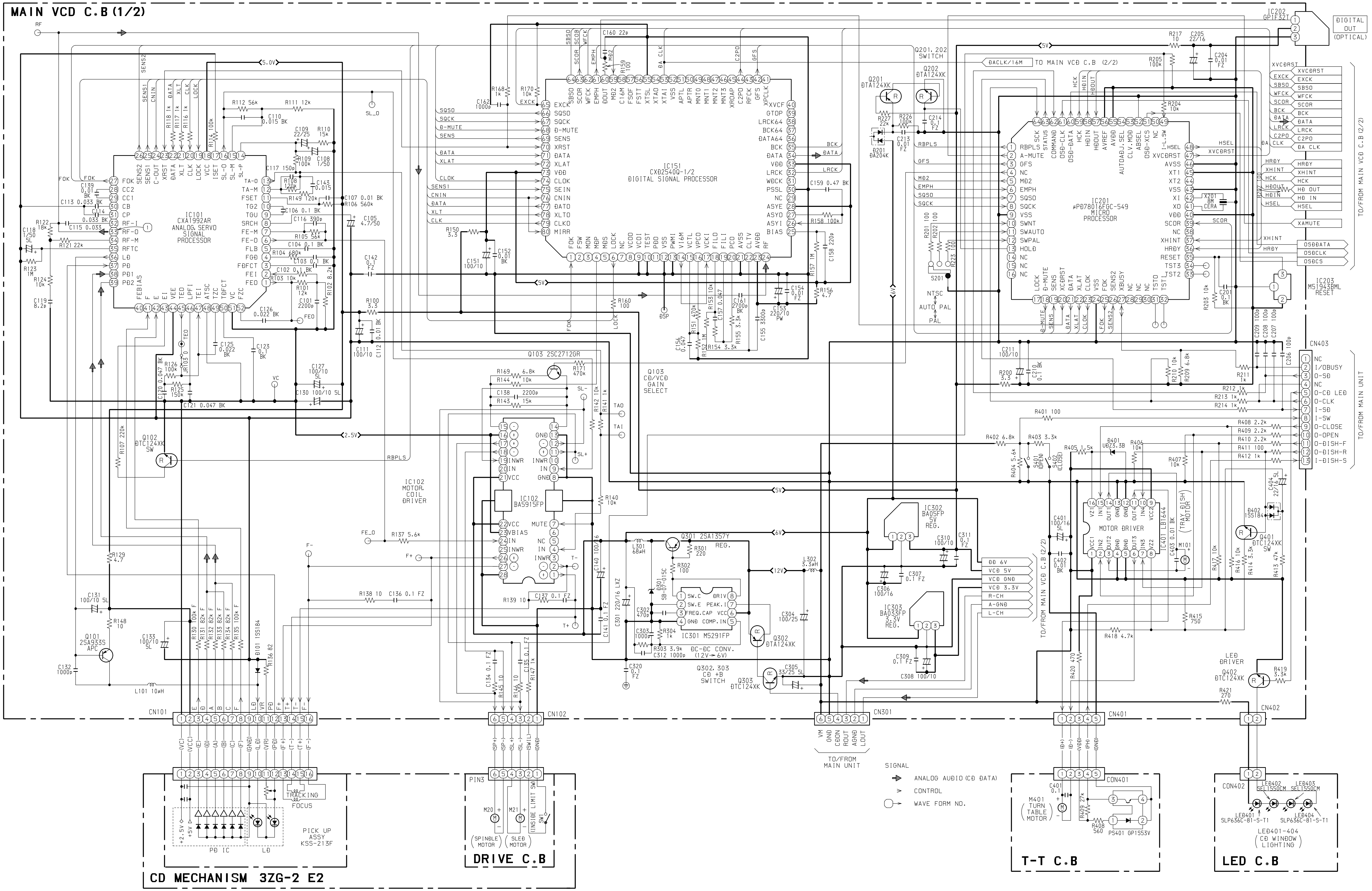
F
G
H
I
J
Q603
IC601
R616
R615
R614
R603
R613
R139
C137
R137
R101
R102
R103
R104
C101
C102
C103
C104
C106
C117
R149
C143
R108
C126
C125
R130
R135
R134
R133
R132
R131
IC101
R121
R122
R124
C119
C113
C114
C115
C139
R109
R112
C110
R117
R116
R118
IC301
C303
R304
R303
C312
C302
R302
R144
R143
Q103
R163
R171
R421
C142
R154
R160
C157
C155
R153
R151
IC302
IC303
IC151
R158
IC507
C556
C552
C558
L508
C160
R159
R535
R542
R544
IC504
C538
R517
C530
C531
C529
IC501
R528
R527
R501
R502
R529
C532
C506
C526
C560
C523
C524
C525
C513
C514
C512
R520
R548
IC503
R509
C519
R420
C546
R537
R538
IC506
C544
Q202
C214
C542
R529
Q201
D201
R407
R416
D001
R223
R202
R201
C201
R203
IC203
R201
R214
R213
R212
R211

MAIN VCD C.B (COMPONENT SIDE)

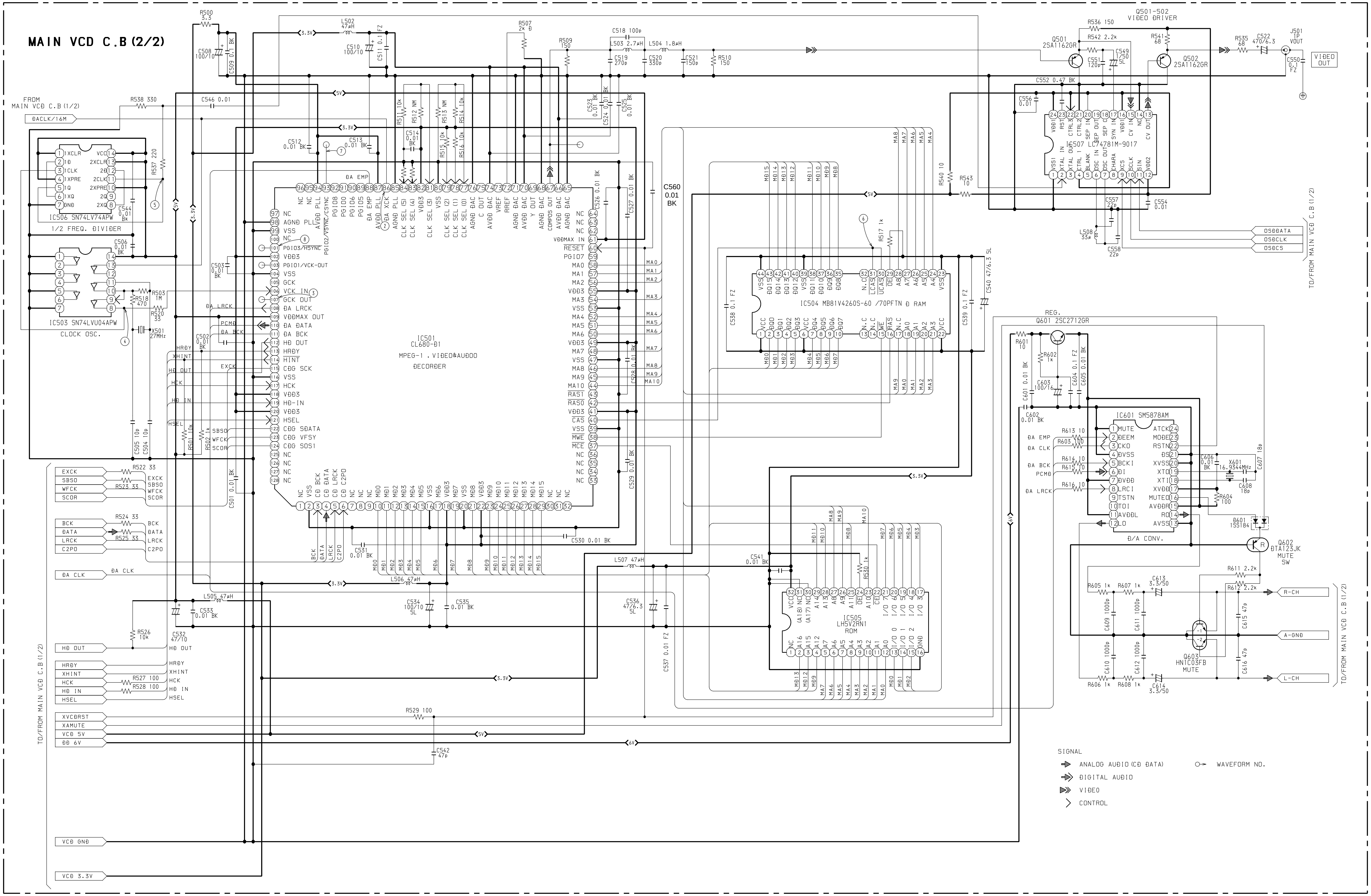
WIRING-3


1
2
3
4
5
6
7
A
B
C
D
E
F
G
H
I
J
FROM
MAIN UNIT
FC4
5
1
T-T C.B
CON
401
4
2
5
3
1
PS401
R409
R408
C401
(RED)
(BLK)
M401
(TURN TABLE
MOTOR)
M
PICK UP ASSY
CON1
MAIN VCD C.B
CN101
DRIVE C.B
M20
(SPINDLE
MOTOR)
SW1
(INSIDE LIMIT
SW)
SW1
M21
(SLED
MOTOR)
PIN3
1
2
3
4
5
6
MAIN VCD C.B
CN102

SCHEMATIC DIAGRAM-1


MAIN VCD C.B (1/2)
IC101 CXA1992AR ANALOG SERVO SIGNAL PROCESSOR
IC151 CXD2540Q-1/2 DIGITAL SIGNAL PROCESSOR
IC201 μPD78016FGC-549 MICRO PROCESSOR
IC202 GP1F32T
DIGITAL OUT (OPTICAL)
IC203 M51943BML RESET
IC102 MOTOR COIL DRIVER
IC102 BA5915FP
Q103 2SC2712GR
Q103 CD/VCD GAIN SELECT
Q102 DTC124XK SW
Q101 2SA933S APC
Q201 DTA124XK
Q202 DTA124XK
Q201, 202 SWITCH
Q301 2SA1357Y REG.
IC301 M5291FP
DC-DC CONV. (12V→6V)
Q302 DTA124XK
Q303 DTC124XK
Q302, 303 CD +B SWITCH
IC302 BA05FP 5V REG.
IC303 BA033FP 3.3V REG.
IC401 LB1644 MOTOR DRIVER
TRAY DISH MOTOR
Q401 DTC124XK SW
Q402 DTC124XK LED DRIVER
TO MAIN VCD C.B (2/2)
TO/FROM MAIN VCD C.B (2/2)
TO/FROM MAIN UNIT
CN101
CN102
CN301
CN401
CN402
CN403
CD MECHANISM 3ZG-2 E2
PICK UP ASSY KSS-213F
TRACKING
FOCUS
PD IC
LD
DRIVE C.B
SPINDLE MOTOR
SLED MOTOR
INSIDE LIMIT SW
T-T C.B
M401 TURN TABLE MOTOR
PS401 GP1S53V
CON401
LED C.B
CON402
LED402 SEL1550CM
LED403 SEL1550CM
LED401 SLP636C-81-5-T1
LED404 SLP636C-81-5-T1
LED401-404 (CD WINDOW LIGHTING)
SIGNAL
ANALOG AUDIO (CD DATA)
CONTROL
WAVE FORM NO.

SCHEMATIC DIAGRAM-2

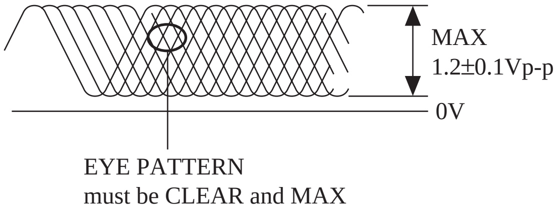


MAIN VCD C.B (2/2)
FROM MAIN VCD C.B (1/2)
DACLK/16M
IC506 SN74LV74APW
1/2 FREQ. DIVIDER
IC503 SN74LVU04APW
CLOCK OSC.
X501 27MHz
IC501 CL680-01
MPEG-1 . VIDEO&AUDIO DECORDER
IC504 MB81V4260S-60 /70PFTN D RAM
IC505 LH5V2RN1 ROM
IC507 LC74781M-9017
Q501-502 VIDEO DRIVER
Q501 2SA1162GR
Q502 2SA1162GR
J501 1P VOUT
VIDEO OUT
REG. Q601 2SC2712GR
IC601 SM5878AM
D/A CONV.
X601 16.9344MHz
D601 1SS184
Q602 DTA123JK MUTE SW
Q603 HN1C03FB MUTE
R-CH
A-GND
L-CH
TO/FROM MAIN VCD C.B (1/2)
OSDDATA
OSDCLK
OSDCS
C560 0.01 BK
EXCK
SBSO
WFCK
SCOR
BCK
DATA
LRCK
C2PO
DA CLK
HD OUT
HRDY
XHINT
HCK
HD IN
HSEL
XVCDRST
XAMUTE
VCD 5V
DD 6V
VCD GND
VCD 3.3V
SIGNAL
ANALOG AUDIO (CD DATA)
DIGITAL AUDIO
VIDEO
CONTROL
WAVEFORM NO.

WAVE FORM

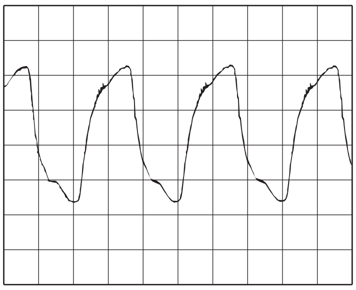
①

IC101 Pin ㉝ (RF-O) VOLT/DIV: 200mV
TIME/DIV: 0.5µS



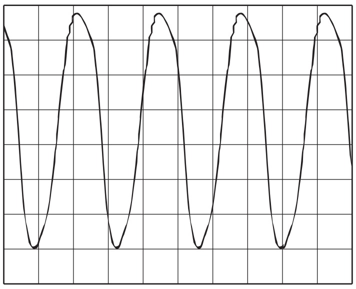
②

IC501 Pin (86) DA XCK VOLT/DIV: 1V
16.93MHz TIME/DIV: 20nS



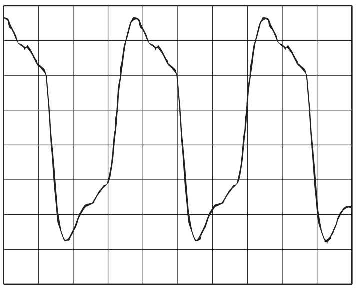
③

IC501 Pin (107) GCK OUT VOLT/DIV: 1V
42.3MHz TIME/DIV: 10nS



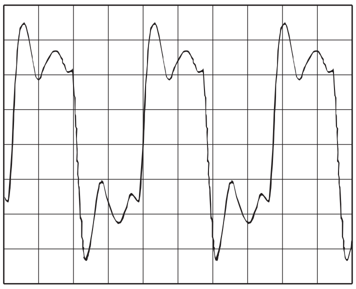
④

IC503 Pin ⑧ 33 VCK VOLT/DIV: 1V
27MHz±1.35kHz TIME/DIV: 10nS



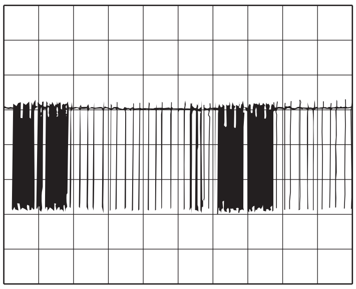
⑤

IC506 Pin ⑪ OSD CLK VOLT/DIV: 1V
13.5MHz±675Hz TIME/DIV: 20nS



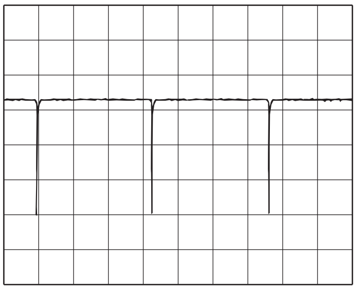
⑥

IC504 Pin ㉚ $\overline{\text{UCAS}}$ VOLT/DIV: 1V
(Pin ㉛ $\overline{\text{LCAS}}$) TIME/DIV: 2µS



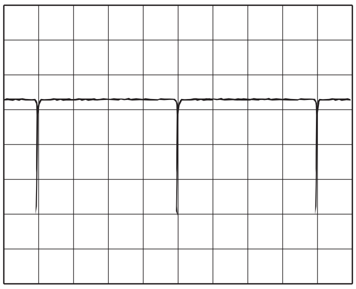
⑦

IC501 Pin (93) $\overline{\text{VSync}}$ VOLT/DIV: 1V
NTSC TIME/DIV: 5mS



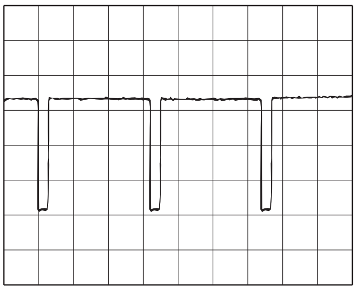
⑧

IC501 Pin (93) $\overline{\text{VSync}}$ VOLT/DIV: 1V
PAL TIME/DIV: 5mS

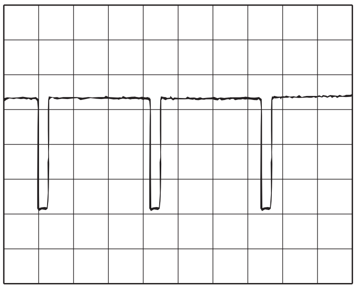


⑧

IC501 Pin (101) $\overline{\text{HSync}}$ VOLT/DIV: 1V
PAL TIME/DIV: 20µS



IC501 Pin (101) $\overline{\text{HSync}}$ VOLT/DIV: 1V
NTSC TIME/DIV: 20µS



IC DESCRIPTION

IC, CXA1992AR

Pin No.	Pin Name	I/O	Description
1	FEO	O	Output terminal for focus error amplifier. Internally connected to window comparator input for bias condition.
2	FEI	I	Input terminal for focus error.
3	FDFCT	I	Capacitor connection terminal for time constant used when there is defect.
4	FGD	I	This pin is connected to GND via capacitor when high frequency gain of the focus servo is attenuated.
5	FLB	I	This is a pin where the time constant is externally connected to raise the low frequency gain of the focus servo.
6	FE_O	O	Focus drive output.
7	FEM	I	Focus amplifier inverted input pin.
8	SRCH	I	This is a pin where the time constant is externally connected to generate the focus search waveform.
9	TGU	I	This is a pin where the selection time constant is externally connected to set the tracking servo the high frequency gain.
10	TG2	I	This is a pin where the selection time constant is externally connected to set the tracking high frequency gain.
11	FSET	I	Pin for setting peak of the phase compensator of the focus tracking.
12	TA_M	I	Tracking amplifier inverted input pin.
13	TA_O	O	Tracking drive output.
14	SL_P	I	Sled amplifier non-inverted input pin.
15	SL_M	I	Sled amplifier inverted input pin.
16	SL_O	O	Sled drive output.
17	ISET	I	The current which determines height of the focus search, track jump and sled kick is input with external resistance connected.
18	Vcc	I	Power supply.
19	LOCK	I	“L” setting starts sled disorder-prevention circuit. (Not pull-up resistance)
20	CLK	I	Clock input for serial data transfer from CPU. (No pull-up resistance)
21	XLT	I	Latch input from CPU. (No pull-up resistance)
22	DATA	I	Serial data input from CPU. (No pull-up resistance)
23	XRST	I	Reset system at “L” setting. (No pull-up resistance)
24	C_OUT	O	Signal output for track number counting.
25	SENS1	O	FZC, DFCT1, TZC, BALH, TGH, FOH, or ATSC is output depending on the command from CPU.
26	SENS2	O	DFCT2, MIRR, BALL, TGL or FOL is output depending on the command from CPU.
27	FOK	O	Output terminal for focus OK comparator.
28	CC2	I	Input pin where the DEFECT bottom hold output is capacitance coupled.
29	CC1	O	DEFECT bottom-hold output terminal. Internally connected to interruption comparator input.
30	CB	I	Connection terminal for DEFECT bottom-hold capacitor.
31	CP	I	Connection terminal for MIRR hold-capacitor. Anti-reverse input terminal for MIRR comparator.

Pin No.	Pin Name	I/O	Description
32	RF_I	I	Input terminal by capacity combination of RF summing amplifier.
33	RF_O	O	Output terminal of RF summing amplifier. Checkpoint of Eye pattern.
34	RF_M	I	Anti-reverse input terminal for RF summing amplifier. The gain of RF amplifier is decided by the connection resistance between RF_M and RFO terminals.
35	RFTC	I	This is a pin where the selection time constant is externally connected to control the RF level.
36	LD	O	APC amplifier output terminal.
37	PD	I	APC amplifier input terminal.
38, 39	PD1, PD2	I	RFI-V amplifier inverted input pin. These pins are connected to the A+C and B+C pins of the optical pickup, receiving by currents input.
40	FEBIAS	I/O	Bias adjustment pin of the focus error amplifier.
41, 42	F, E	I	F and EIV amplifier inverted input pins. These pins are connected to the F and E of the optical pickup, receiving by current input.
43	EI	—	Gain adjustment pin of the I-V amplifier E. (When not in use of BAL automatic adjustment)
44	VEE	—	GND connection pin.
45	TEO	O	Output terminal for tacking-error amplifier. Output E-F signal.
46	LPFI	I	BAL adjustment comparator input pin. (Input through LPF from TEO)
47	TEI	I	Input terminal for tracking error.
48	ATSC	I	Window-comparator input terminal for detecting ATSC.
49	TZC	I	Input terminal for tracking-zero cross comparator.
50	TDFCT	I	Capacitor connection pin for the time constant used when there is defect.
51	VC	O	Output terminal for DC voltage reduced to half of VCC+VEE.
52	FZC	I	Input terminal for focus-zero cross comparator.

IC, CXD2540Q

Pin No.	Pin Name	I/O	Description
1	FOK	I	Focus OK input. Used for SENS output and the servo auto sequencer.
2	FSW	O	Spindle motor output filter switching output.
3	MON	O	Spindle motor on/off control output.
4	MDP	O	Spindle motor servo control.
5	MDS	O	
6	LOCK	O	High, when sampled value of GFS at 460Hz is high. Low, when sampled value of GFS at 460Hz is low by 8 times successively.
7	NC		
8	VCOO	O	Analog EFM PLL oscillation circuit output.
9	VCOI	I	Analog EFM PLL oscillation circuit input. fLOCK=8.6436MHz.
10	TEST	I	TEST pin.
11	PDO	O	Analog EFM PLL charge pump output.
12	VSS		GND.
13	PWMI	I	Spindle motor external control input.
14	V16M	O	VCO2 oscillation output for the wide-band EFM PLL.
15	VCTL	I	VCO2 control voltage input for the wide-band EFM PLL.
16	VPCO	O	Wide-band EFM PLL charge pump output.
17	VCKI	I	VCO2 oscillation input for the wide-band EFM PLL.
18	FILO	O	Multiplier PLL (slave=digital PLL) filter output.
19	FILI	I	Multiplier PLL filter input.
20	PCO	O	Multiplier PLL charge pump output.
21	AVSS		Analog GND.
22	CLTV	I	Multiplier VCO1 control voltage input.
23	AVDD		Analog power supply (5V).
24	RF	I	EFM signal input.
25	BIAS	I	Constant current input of the asymmetry circuit.
26	ASYI	I	Asymmetry comparator voltage input.
27	ASYO	O	EFM full-swing output.
28	ASYE	I	Low: asymmetry circuit off; high: asymmetry circuit on.
29	NC		
30	PSSL	I	Audio data output mode switching input. Low: serial output; high: parallel output.
31	WDCK	O	D/A interface for 48-bit slot. Word clock f=2Fs.
32	LRCK	O	D/A interface for 48-bit slot. LR clock f=Fs.
33	VDD		Power supply (5V).
34	DA16	O	DA16 (MSB) output when PSSL=1. 48-bit slot serial data (two’s complement, MSB first) when PSSL=0.
35	DA15	O	DA15 output when PSSL=1. 48-bit slot bit clock when PSSL=0.
36	DA14	O	DA14 output when PSSL=1. 64-bit slot serial data (two’s complement, LSB first) when PSSL=0.
37	DA13	O	DA13 output when PSSL=1. 64-bit slot bit clock when PSSL=0.
38	DA12	O	DA12 output when PSSL=1. 64-bit slot LR clock when PSSL=0.

Pin No.	Pin Name	I/O	Description
39	DA11	O	DA11 output when PSSL=1. GTOP output when PSSL=0.
40	DA10	O	DA10 output when PSSL=1. XUGF output when PSSL=0.
41	DA09	O	DA09 output when PSSL=1. XPLCK output when PSSL=0.
42	DA08	O	DA08 output when PSSL=1. GFS output when PSSL=0.
43	DA07	O	DA07 output when PSSL=1. RFCK output when PSSL=0.
44	DA06	O	DA06 output when PSSL=1. C2PO output when PSSL=0.
45	DA05	O	DA05 output when PSSL=1. XRAOF output when PSSL=0.
46	DA04	O	DA04 output when PSSL=1. MNT3 output when PSSL=0.
47	DA03	O	DA03 output when PSSL=1. MNT2 output when PSSL=0.
48	DA02	O	DA02 output when PSSL=1. MNT1 output when PSSL=0.
49	DA01	O	DA01 output when PSSL=1. MNT0 output when PSSL=0.
50	APTR	O	Aperture compensation control output. This pin outputs a high signal when the right channel is used.
51	APTL	O	Aperture compensation control output. This pin outputs a high signal when the left channel is used.
52	VSS		GND.
53	XTAI	I	Crystal oscillation circuit input.
54	XTAO	O	Crystal oscillation circuit output.
55	XTSL	I	Crystal selector input.
56	FSTT	O	2/3 frequency divider output for Pins 53 and 54.
57	FSOF	O	1/4 frequency divider output for Pins 53 and 54.
58	C16M	O	16.9344MHz output. (V16M output in CLV-W and CAV-W modes)
59	MD2	I	Digital-out on/off control. High: on; low: off
60	DOUT	O	Digital-out output.
61	EMPH	O	Outputs a high signal when the playback disc has emphasis, and a low signal when there is no emphasis.
62	WFCK	I	WFCK (write frame clock) output.
63	SCOR	O	Outputs a high signal when either subcode sync S0 or S1 is detected.
64	SBSO	O	Sub P to W serial output.
65	EXCK	I	SBSO readout clock input.
66	SQSO	O	Sub Q 80-bit and PCM peak, level metter and internal status outputs.
67	SQCK	I	SQSO readout clock input.
68	MUTE	I	High: mute; low: release
69	SENS	—	SENS output to CPU.
70	XRST	I	System reset. Reset when low.
71	DATA	O	Serial data input from CPU.
72	XLAT	O	Latch input from CPU. Serial data is latched at the falling edge.
73	VDD		Power supply (5V).
74	CLOK	O	Serial data transfer clock input from CPU.
75	SEIN	I	SENS input from SSP.
76	CNIN	I	Track jump count signal input.

Pin No.	Pin Name	I/O	Description
77	DATO	O	Serial data output to SSP.
78	XLTO	O	Serial data latch output to SSP. Latched at the falling edge.
79	CLKO	O	Serial data transfer clock output to SSP.
80	MIRR	I	Mirror signal input. Used when the number of tracks is 128 or more for the 2N-track jump and M track move of the auto sequencer.

Notes)

- The 64-bit slot is an LSB first, two's complement output, and the 48-bit slot is an MSB first, two's complement output.
- GTOP is used to monitor the frame sync protection status. (High: sync protection window open.)
- XUGF is the negative pulse for the frame sync obtained from the EFM signal. It is the signal before sync protection.
- XPLCK is the inverse of the EFM PLL clock. The PLL is designed so that the falling edge and the EFM signal transition point coincide.
- GFS goes high when the frame sync and the insertion protection timing match.
- RFCK is derived from the crystal accuracy, and has a cycle of 136µ.
- C2PO represents the data error status.
- XRAOF is generated when the 32K RAM exceeds the ±28F jitter margin.

IC, CL680

Pin No.	Pin Name	I/O	Description
1	NC	—	No connection.
2	VSS	—	GND.
3	CD BCK	I	Bit clock input from CD DSP.
4	CD DATA	I	Data input from CD DSP.
5	CD LRCK	I	LRCK input from CD DSP.
6	CD C2PO	I	C2 pointer input from CD DSP.
7-9	NC	—	No connection.
10-15	MD0-MD5	I/O	DRAM/ROM interface. (DATA)
16	VSS	—	Ground.
17	MD6	I/O	DRAM/ROM interface. (DATA)
18	VDD3	—	Power supply 3.3V.
19	MD7	I/O	DRAM/ROM interface. (DATA)
20	VSS	—	Ground.
21	MD8	I/O	DRAM/ROM interface. (DATA)
22	VDD3	—	Power supply 3.3V.
23-29	MD9-MD15	I/O	DRAM/ROM interface. (DATA)
30-36	NC	—	No connection.
37	$\overline{\text{MCE}}$	—	ROM chip enable.
38	$\overline{\text{MWE}}$	O	DRAM write enable.
39	VSS	—	Ground.
40	$\overline{\text{CAS}}$	O	DRAM/ROM interface.
41	VDD3	—	Power supply 3.3V.
42	$\overline{\text{RASO}}$	O	DRAM/ROM interface.
43	$\overline{\text{RASI}}$	O	
44-46	MA10-MA8	O	DRAM/ROM interface. (Address)
47	VSS	—	Ground.
48	MA7	O	DRAM/ROM interface. (Address)
49	VDD3	—	Power supply 3.3V.
50-52	MA6-MA4	O	DRAM/ROM interface. (Address)
53	VSS	—	Ground.
54	MA3	O	DRAM/ROM interface. (Address)
55	VDD3	—	Power supply 3.3V.
56-58	MA2-MA0	O	DRAM/ROM interface. (Address)
59	PGIO7	I/O	Programmable I/O.
60	$\overline{\text{RESET}}$	I	Reset input.
61	VDD MAX IN	—	Power supply - VDDMAX. (5.0V)
62-64	NC	—	No connection.
65	AGND DAC	—	Analog ground.
66	A DAC	—	Analog power supply (DAC) : 3.3V.
67	COMP OUT	O	Composite out.
68	AGND DAC	—	Analog ground.

Pin No.	Pin Name	I/O	Description
69	Y OUT	O	Video signal “Y” OUT.
70	AVDD DAC	—	Analog power supply (DAC) 3.3V.
71	AGND DAC	—	Analog ground.
72	R REF	I	Reference resistor input.
73	V REF	I	Voltage reference input.
74	AVDD DAC	—	Analog power supply (DAC) : 3.3V.
75	C OUT	O	Video signal “C” out.
76	AGND DAC	—	Analog ground.
77-79	CLK SEL0-2	I	Clock selection input.
80	VSS	—	Ground.
81	CLK SEL3	I	Clock selection input.
82	VDD3	—	Power supply 3.3V.
83, 84	CLK SEL4, 5	I	Clock selection input.
85	AGND PLL	—	Analog ground.
86	DA XCK	I	DA XCK (16.933MHz) input.
87	AVDD PLL	—	Analog power supply 3.3V.
88	DA EMP	O	DAC-emphasis output.
89, 90	PGIO5, O6	I/O	Programmable I/O.
91	PGIO0	I/O	
92	PGIO8	I/O	
93	$\overline{\text{VSYNC}}/\overline{\text{CSYNC}}$	O	$\overline{\text{VSYNC}}/\overline{\text{CSYNC}}$ output.
94	AVDD PLL	—	Analog power supply (PLL) 3.3V.
95	VID_DAC_CK	O	Video DAC clock.
96	PROC_CK	O	Processor clock.
97	AUD_XCK	O	Audio XCK.
98	AGND PLL	—	Analog ground.
99	VSS	—	Ground.
100	NC	—	No connection.
101	$\overline{\text{HSYNC}}$	O	$\overline{\text{HSYNC}}$ output.
102	VDD3	—	Power supply 3.3V.
103	VCK OUT	O	VCK out.
104	VSS	—	Ground.
105	GCK	I	Global clock signal input. (42.3MHz)
106	VCK	I	Video clock signal input. (27.0MHz)
107	GCK OUT	O	Global clock signal output. (27.0MHz)
108	DA LRCK	O	DAC-LRCK output.
109	VDD MAX OUT	—	Power supply (VDD MAX) : 5.0V.
110	DA DATA	O	DAC-PCM data output.
111	DA BCK	O	DAC-BIT clock output.
112	HD OUT	O	Micon interface. (Data out)
113	HRDY	O	Micon interface. (Host ready)

Pin No.	Pin Name	I/O	Description
114	$\overline{\text{HINT}}$	O	Micon interface. (Host interrupt)
115	CDG SCK	I	CD-G serial clock input.
116	VSS	—	Ground.
117	HCK	I	Micon interface. (Host clock)
118	VDD3	—	Power supply 3.3V.
119	HD IN	I	Micon interface. (Host data in)
120	VDD3	—	Power supply 3.3V.
121	HSEL	I	Micon interface. (Host select in)
122	CDG DATA	I	CD-G data input.
123	CDG VFSY	I	CD-G VFSY input.
124	CDG SOSI	I	CD-G SOSI input.
125	DSP-XCK	O	DSP-XCK output.
126-128	NC	—	No connection.

IC, LC74781M

Pin No.	Pin Name	I/O	Description
1	VSS1	—	GND connection terminal. (Digital ground terminal).
2	Xtal IN	I	External X’tal and capacitor for internal sync generator, or the external clock are connected to this terminal. (2fsc or 4fsc).
3	Xtal OUT	O	
4	CTRL1	I	Either the external clock input mode or the X’tal generator mode is selected by this selector terminal. L: X’tal generator mode, H: External clock input.
5	BLANK	O	Blank signal (character and the green ORed signal) is output from this terminal. (MODE 0: composite sync signal is output at H.) When reset ($\overline{\text{RST}}$ terminal = L), the X’tal clock signal is output. (It is not output when reset by the reset command).
6	OSC IN	I	External coil and capacitor for the character output dot clock generator are connected to this terminal.
7	OSC OUT	O	
8	CHARA	O	The character signal is output from this terminal. (MOD 0: when H, the external sync signal identification signal is output from this terminal. This output signal tells whether the external sync signal is present or not. When external sync signal is present, H is output.) When reset ($\overline{\text{RST}}$ terminal = L), the dot clock signal (LC oscillator) is output. (It is not output when reset by the reset command).
9	$\overline{\text{CS}}$	I	Enable signal for the serial data input is input to this terminal. The serial data input is enabled at L. Pull-up resistor is built-in. (Hysteresis input).
10	SCLK	I	Clock of the serial data input is input to this terminal. Pull-up resistor is built-in. (Hysteresis input).
11	SIN	I	Serial data input terminal. Pull-up resistor is built-in. (Hysteresis input).
12	VDD2	—	Power supply for the composite video signal level adjustment. (Analog power supply).
13	CV OUT	O	Composite video signal output terminal.
14	NC	—	Connected to GND or not connected.
15	CV IN	I	Composite video signal input terminal.
16	VDD1	—	Power supply (+5V digital power supply).
17	SYN IN	I	Video signal for the internal sync separator circuit is input to this terminal. (When the internal sync separator circuit is not used, the horizontal sync signal or composite sync signal is input to this terminal).
18	SEP C	—	Internal sync separator circuit bias voltage monitoring terminal.
19	SEP OUT	O	The composite sync output signal of the internal sync separator circuit is output from this terminal. (H: MOD 1. H: during internal sync mode. L: during external sync mode.) (When internal sync separator circuit is not used, the SYN IN input signal is output from this terminal).
20	SEP IN	I	The output signal of the SEP OUT terminal is integrated so that the vertical sync signal is input to this terminal. An integrator circuit must be connected between the SEP OUT terminal and this terminal. When this terminal is not used, it must be connected to VDD1.
21	CTRL2	I	When selecting any of the NTSC or PAL or PAL-M or PAL-N system, the pin setting has priority. When L, the NTSC system is selected after resetting. Selection of either NTSC or PAL or PAL-M or PAL-N system by the command becomes effective. H: PAL-M system.

Pin No.	Pin Name	I/O	Description
22	CTRL3	I	Controls whether or not to input the $\overline{\text{VSYNC}}$ signal to the SEPIN input. L: to input the $\overline{\text{VSYNC}}$ signal. H: not to input the $\overline{\text{VSYNC}}$ signal.
23	$\overline{\text{RST}}$	I	System reset input terminal. Pull-up resistor is built-in. (Hysteresis input).
24	VDD1	—	Power supply. (+5V digital power supply).

IC, µPD78016FGC

Pin No.	Pin Name	I/O	Description
1	RBPLS	O	RADIAL BALANCE PLUS.
2	AMUTE	O	AUDIO ANALOG MUTE (H=MUTE ON).
3	GFS	I	GFS.
4	XVCDMD	I	AUDIO/VIDEO CD MODE (L=VCD=SPINDLE GAIN UP).
5	MD2	O	DOUT MUTE CONT.
6	EMPH	I	EMPHASIS.
7	SQSO	I	SQDATA FROM CD.
8	SQCK	O	SQCLK TO CD.
9	VSS	—	GND.
10	SWNT	I	SW TV OUT MODE (L=NTSC).
11	SWAUTO	I	SW TV OUT MODE (L=NTSC/PAL AUTO).
12	SWPAL	I	SW TV OUT MODE (L=PAL).
13	EMERG	I	POWER EMERGENCY STOP (L*3sec=STOP).
14	NC	—	Nou used.
15	LPCSEL	I	“LPC ON/OFF (H=ON, NORMAL)”.
16	NC	—	Nou used.
17	LOCK	O	GFS (FRAME SYNC) LOCK (NO USE=H).
18	DMUTE	O	DIGITAL DATA OUT MUTE.
19	SENS	I	DSP SENS1 FROM CD.
20	XCDRST	O	CD RESET.
21	DATA	O	DATA TO CD.
22	XLAT	O	XLT TO CD.
23	CLOK	O	CLK TO CD.
24	VSS	—	GND.
25	FOK	I	FOCUS OK.
26	SENS2	I	SSP SENS2 FROM CD.
27	XBUSY	I/O	READY/BUSY I/O TO HOST OD.
28	NC	—	Nou used.
29	NC	—	
30	NC	—	
31	TST0	I/O	CHECK LAND.
32	TST1	I/O	
33	TST2	I/O	
34	TST3	I/O	
35	RESET	I	RESET.
36	HRDY	I	HRDY FROM CL680.
37	XHINT	I	HINT FROM CL680.
38	NC	—	Nou used.
39	SCOR	I	SCOR FROM CD.
40	VDD	—	5.0VDD.
41	XO	O	8.0MHz CERALOCK.

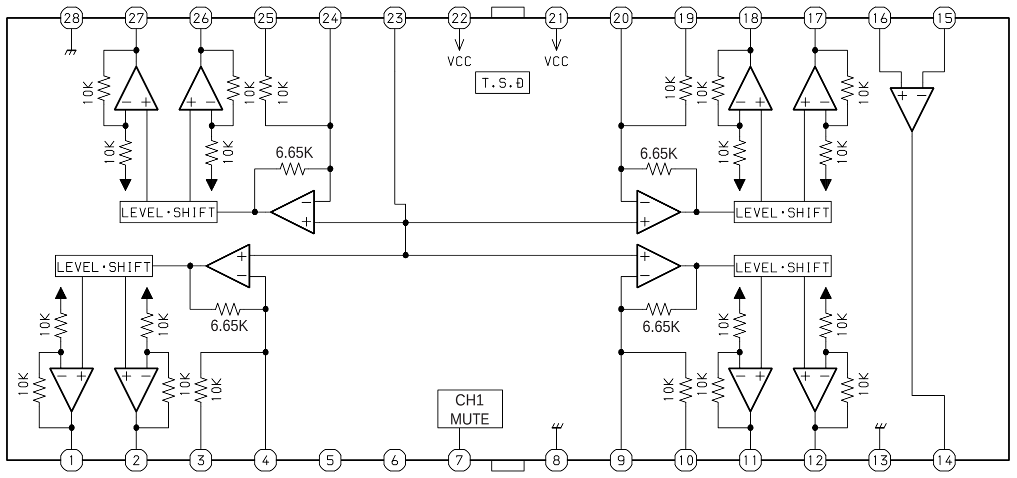
Pin No.	Pin Name	I/O	Description
42	XI	I	8.0MHz CERALOCK.
43	VSS	—	GND.
44	XT2	—	Nou used.
45	XT1	I	5.0VDD.
46	AVSS	—	GND.
47	XMPGRST	O	MPEG BLOCK IC RESET.
48	HSEL	O	ADDRESS/DATA SEL TO CL680.
49	INLSW	I	INSIDE LIMIT SW .
50	NC	—	Nou used.
51	OSDXCS	O	OSD CHIP SELECT.
52	ABSEL	I	CXA1992A/B SELECT (L=CXA1992A).
53	CLVSEL	I	CLV MODE SELECT (H=CLV-N).
54	AADSEL	I	AUTO ADJUST SELECT (H=AUTO ON).
55	AVDD	—	5.0VDD.
56	AVREF	—	
57	HDOUT	I	HD-OUT FROM CL680.
58	HDIN	O	HD-IN TO CL680.
59	HCK	O	HCK TO CL680.
60	OSDDATA	O	OSD DATA.
61	OSDCLK	O	OSD CLOCK.
62	COMMAND	I	COMMAND FROM HOST .
63	STATUS	O	STATUS TO HOST.
64	SCK	I	SCK FROM HOST.

IC, SM5878M

Pin No.	Pin Name	I/O	Description
1	MUTE	I	MODE = H: Soft mute ON/OFF terminal. (Mute at H). MODE = L: Attenuator level DOWN/UP terminal. (DOWN at H).
2	DEEM	I	De-emphasis ON/OFF terminal. (De-emphasis ON at H).
3	CKO	O	Oscillator clock output. (16.9344 MHz).
4	DVSS	—	Digital VSS terminal.
5	BCKI	I	Bit clock input terminal.
6	DI	I	Serial data input terminal.
7	DVDD	—	Digital VDD terminal.
8	LRCI	I	Sample rate clock (fs) input terminal. (H = L ch/L = R ch).
9	TSTN	I	Test input. (“H” or open during normal operation)
10	TO1	O	Test output 1. (Normally low level output).
11	AVDDL	—	Analog VDD terminal. (For L ch).
12	LO	O	Left channel analog output terminal.
13	AVSS	—	Analog VSS terminal.
14	RO	O	Right channel analog output terminal.
15	AVDDR	—	Analog VDD terminal. (For R ch).
16	MUTEO	O	Infinity zero detection output.
17	XVDD	—	X’tal system VDD terminal.
18	XTI	I	X’tal oscillator terminal. (Or external clock input terminal of 16.9344 MHz).
19	XTO	O	X’tal oscillator terminal.
20	XVSS	—	X’tal system VSS terminal.
21	DS	I	Double-speed/normal playback selection. (Double-speed at H).
22	RSTN	I	Reset terminal. (Reset at L).
23	MODE	I	Soft mute/Attenuator mode selection. (Soft mute at H).
24	ATCK	I	Attenuator level setup clock (Ignored when MODE = H).

IC BLOCK DIAGRAM

IC, BA5915FP


28
27
26
25
24
23
22
21
20
19
18
17
16
15
VCC
VCC
T.S.D
10K
6.65K
LEVEL·SHIFT
CH1
MUTE
1
2
3
4
5
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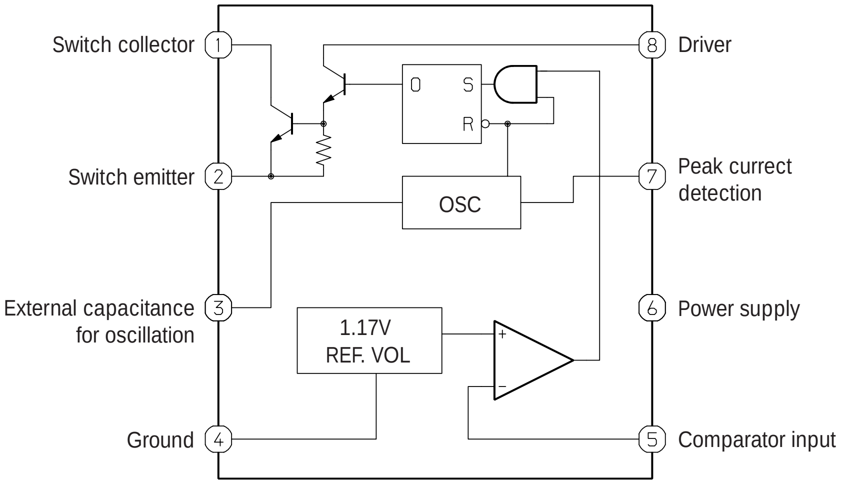
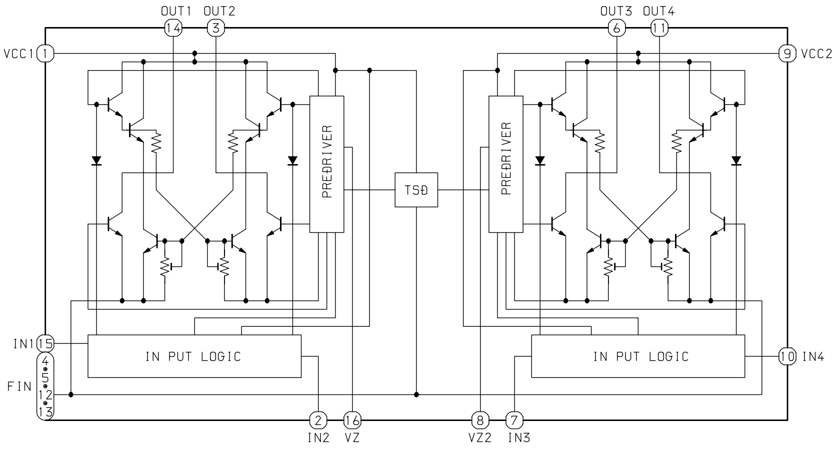
8
9
10
11
12
13
14

T.S.D: Thermal shut-down
Resistors are in units of Ω.

IC, M5291FP


Switch collector 1
Switch emitter 2
External capacitance for oscillation 3
Ground 4
8 Driver
7 Peak currect detection
6 Power supply
5 Comparator input
D
S
R
OSC
1.17V REF. VOL
+
−

IC, LB1644


OUT1
OUT2
OUT3
OUT4
14
3
6
11
VCC1 1
9 VCC2
PREDRIVER
TSD
PREDRIVER
IN1 15
IN PUT LOGIC
IN PUT LOGIC
10 IN4
FIN
4
5
12
13
2 IN2
16 VZ
8 VZ2
7 IN3

TRUH TABLE

IN1	IN2	OUT1	OUT2	IN3	IN4	OUT3	OUT4
0	0	L	L	0	0	L	L
1	0	H	L	1	0	H	L
0	1	L	H	0	1	L	H
1	1	L	L	1	1	L	L

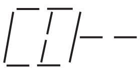
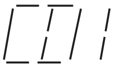
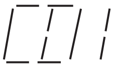
INPUT			OUTPUT				MODE	
IN1	IN2.3	IN4	OUT1	OUT2	OUT3	OUT4	M1	M2
0	0	0	L	L	L	L	BRAKE	BRAKE
1	0	0	H	L	L	L	FF/REW	BRAKE
0	1	1	L	H	L	L	REW/FF	BRAKE
1	1	0	L	L	H	L	BRAKE	FF/REW
0	0	1	L	L	L	H	BRAKE	REW/FF
1	1	1	L	L	L	L	BRAKE	BRAKE

TEST MODE

1. How to Activate CD Test Mode
   Insert the AC plug while pressing the function CD button.
   All FL display tubes will light up, and the test mode will be activated.

2. How to Cancel CD Test Mode
   Either one of the following operations will cancel the CD test mode.
   - Press the function button. (except CD function button)
   - Press the power switch button.
   - Disconnect the AC plug

3. CD Test Mode Functions
   When test mode is activated, the following mode functions from No.1 to No.5 can be used by pressing the operation keys.

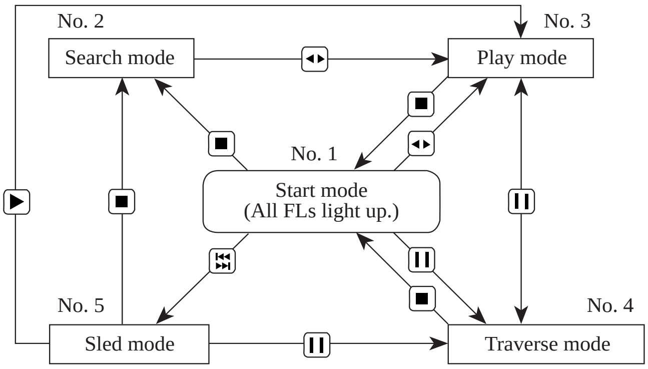
Mode/No.	Operation	FL display	Operation	Contents
Start mode No.1	Activation	TEST□□ □□ □□ Flashes repeatdly	• Test mode is activated. • CD block power is ON.	• Test mode
Search mode No.2	■ key		• Continual focus search (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes. * NOTE 1	FOCUS SERVO • Check focus search waveform • Check focus error waveform (FOK/FZC are not monitored in the search mode)
Play mode No.3	◀▶key		• Normal playback • Focus search is continued if TOC cannot be read. * NOTE 1	FOCUS SERVO/TRACKING SERVO CLV SERVO/SLED SERVO Check FOK/FZC
Traverse mode No.4	❚❚ key		• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON/OFF Tracking balance (traverse) check
Sled mode No.5	⏮key ⏭	All lamps light	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

* NOTE 2: Do not press the ⏮or ⏭keys when the machine is in the ❚❚ status is active. If they are pressed, playback will not be possible after the ❚❚ status has been canceled. If the ⏮or ⏭keys are pressed in the ❚❚status, press the ■key and return to the start mode (No.1).

* NOTE 3: When pressing the ⏮or ⏭keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

4. Operation Outline
   The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



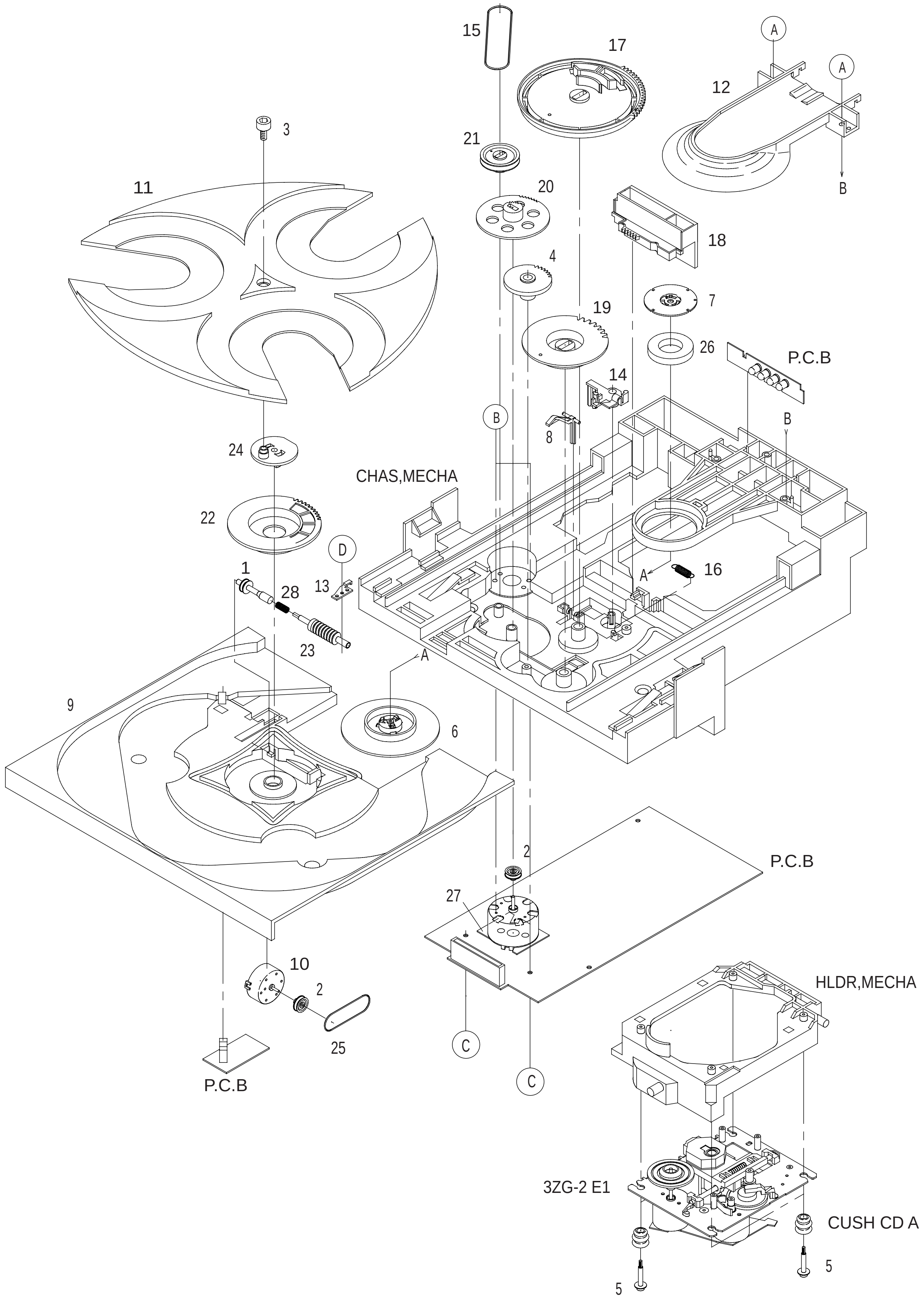
If the DISC DIRECT PLAY button is pressed, the machine performs the same operation as the PLAY button is pressed as shown. If the tray is opened by pressing OPEN/CLOSE button during Play mode or Traverse mode, the machine returns to the Start mode.

5. How to check the Automatic Adjustment Values
   The automatic adjustment values can be checked by pressing the square (■) button.
   FL display (displayed in hexadecimal values)

```
** ** **
|  |  └──────────► Tracking balance (00-0F)
|  └─────────────► Tracking gain (00-0C)
└────────────────► Focus bias (10-2F)
```

Note) The reference value is “20 08 08”.

MECHANICAL EXPLODED VIEW 1/1


15
17
A
A
12
B
3
21
11
20
18
4
7
19
26
P.C.B
14
B
8
B
24
CHAS,MECHA
22
D
1
28
13
A
16
23
A
9
6
2
P.C.B
27
10
2
HLDR,MECHA
25
C
C
P.C.B
3ZG-2 E1
CUSH CD A
5
5

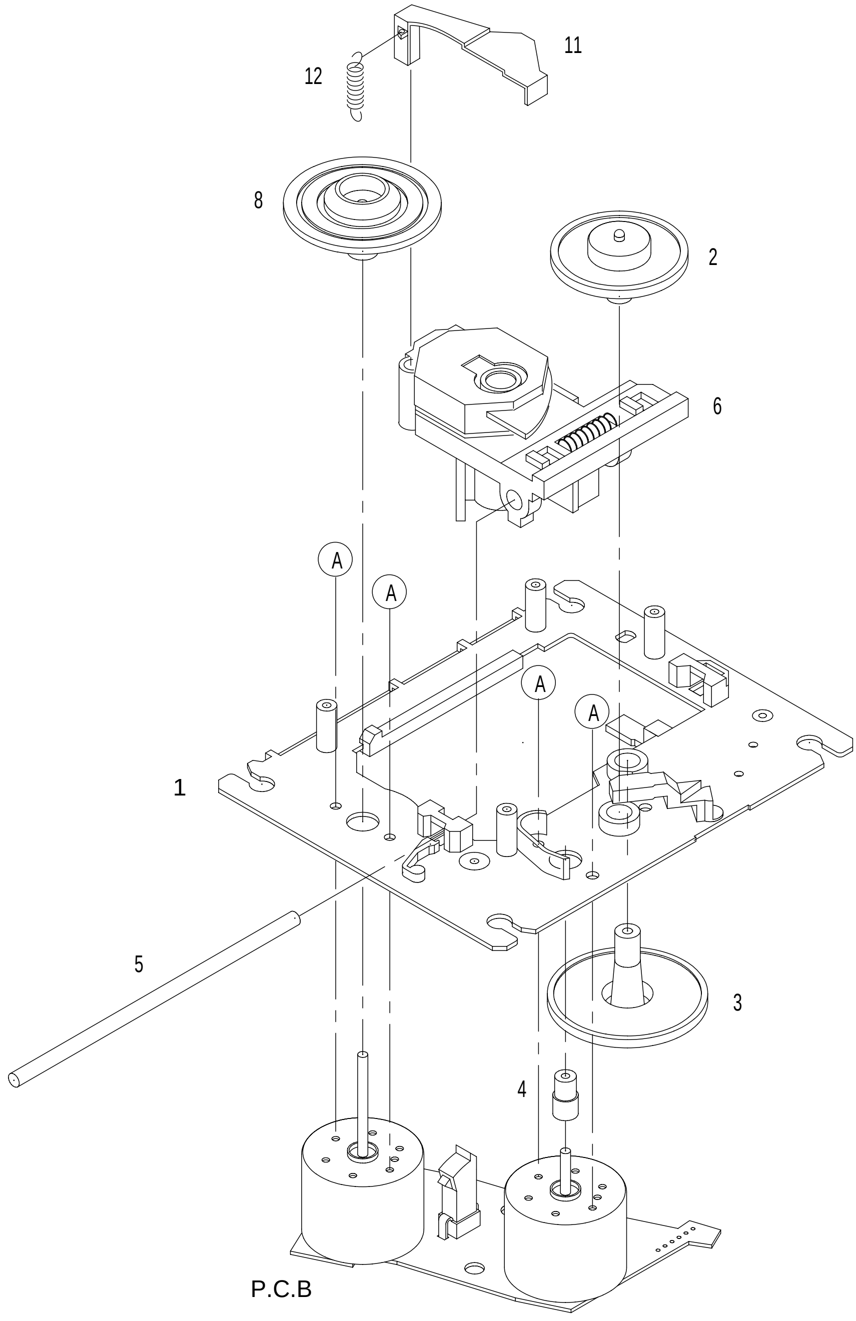
MECHANICAL PARTS LIST 1/1

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG1-239-210		PULLY,WORM N
2	84-ZG1-267-010		PULLEY,LOAD MO 8
3	81-ZG1-239-010		S-SCREW,TT
4	81-ZG1-291-110		GEAR,TRAY RELAY NO3
5	81-ZG1-271-010		S-SCREW MECH REAR
6	81-ZG1-277-310		HLDR,MAGNET N
7	81-ZG1-255-110		PLATE,MAGNET MK2
8	83-ZG3-213-010		LVR,SW
9	84-ZG1-003-310		TRAY,NO2-B
10	87-045-364-010		MOTOR(BCH3B14)
11	84-ZG1-005-210		TURNTABLE,NO1(*)
12	84-ZG1-011-010		REFLECTOR,CD
13	84-ZG1-259-010		SPR-P,WORM
14	84-ZG1-208-210		LEVER,CAM
15	84-ZG1-209-010		BELT,SQ1.8-117.7
16	84-ZG1-211-010		SPR-E CAM S
17	84-ZG1-215-410		GEAR,MAIN CAM BLU
18	84-ZG1-216-310		SLIDE,MECHA CAM YEL
19	84-ZG1-205-110		GEAR,TRAY
20	84-ZG1-206-110		GEAR,RELAY

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
21	84-ZG1-207-010		PULLEY,RELAY
22	84-ZG1-221-010		GEAR,MAIN TT
23	84-ZG1-238-010		GEAR,WORM N
24	84-ZG1-224-010		LEVER,TT
25	84-ZG1-225-010		BELT,SQ1.0-63.3
26	83-ZG3-602-010		RING,MAG
27	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
28	84-ZG1-248-010		SPR-C,WORM
A	87-067-703-010		TAPPING SCREW, BVT2+3-10
B	87-251-070-410		U+2.6-3
C	87-342-036-210		UT2+2-8
D	87-067-981-010		BVT2+3-6 BLK

CD MECHANISM EXPLODED VIEW 1/1 (3ZG-2 E1)



CD MECHANISM PARTS LIST 1/1 (3ZG-2 E1)

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	83-ZG2-243-110		CHAS ASSY,SHT
2	83-ZG2-235-010		GEAR,A3
3	83-ZG2-205-210		GEAR,B
4	83-ZG2-236-010		GEAR MOTOR 3
5	83-ZG2-240-010		SHAFT,SLIDE 3
6	87-A90-836-010		PICKUP,KSS-213F
8	83-ZG2-233-010		TURN TABLE,A5
11	83-ZG2-245-110		LEVER,SHUTTER
12	83-ZG2-250-010		SPR-E,SHT 2
A	87-261-032-210		SCREW V+2-3

USE MODEL LIST

CX-NAK572
CX-NK270
CX-NK290
CX-NK370
CX-NK570
CX-NK765
CX-NK770
CX-NK970
DX-SNKH100

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G－　－	
G－　－	
G－　－	

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